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ABSTRACT

Over the past several years the universities of Ontario have made a gigantic effort under the direction of the Committee of Presidents of Universities of Ontario to provide quality higher education for all qualified students. Inter institutional cooperation and coordination has been a must in this effort, and maximum utilization of available resources has been an absolute necessity. This document describes the achievements of the Ontario universities and presents a discussion of some of the problems and proposals to solve these problems. Cooperative activities among the universities include shared library services, shared computer services, applicant counseling, student housing and student financing. (HS)

Committee of Presidents of Universities of Ontario

Fourth Annual Review, 1969-70

Comité des Présidents d'Université de l'Ontario

ED 042

Variations on a Theme

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Variations on a Theme

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1.

VARIATIONS ON A THEME

The capacity of the universities in Ontario to work together voluntarily is being challenged. Can they cooperate in providing educational opportunities in ways which make good and economical use of their collective resources? Can they coordinate their activities to offer the Province a comprehensive array of university programmes to meet needs of our society and yet avoid wasteful duplication? Can they provide long-term plans to meet their responsibilities in ways which reflect a sensitivity to provincial and other needs rather than the competitive ambitions and aspirations of fourteen independent campuses? There are those who think the answers to each of these questions is "no." Their scepticism reflects a growing concern over the cost to the taxpayer of a system of university education which has grown at a phenomenal rate over the past decade.

The stated policy of the Ontario Government, supported by the universities, has been to provide a place for every qualified student. That policy remains sound, but it has meant that the growth in enrolment over the past five years has been 16% compounded annually. Continuation of the policy over the next five years will result in average annual growth rates of 8 to 12%. Added to enrolment growth have been increases in costs per student. These have averaged about 6% a year for three consecutive years — a figure which is modest in comparison to the increases experienced in a number of other sectors of the economy. Nevertheless, the resultant total increase in operating costs amounted in 1969-70, for example, to 22%.

Recently, the Economic Council of Canada in reviewing the accomplishments of Canadian universities stated

> Over the past decade, tremendous efforts have been devoted to achieving a massive expansion of higher education, in part reflecting a catching-up process from an unsatisfactory level in the earlier postwar period. These efforts have resulted in a huge enlargement of educational plant and equipment (including the establishment of a substantial number of new institutions); the enhancement and improvement of facilities available to students and staff; an extraordinarily large growth in staff, many of whom have had to be recruited and retained under the difficult circumstances of severe shortages of professional

> manpower in many fields; and dynamic growth and change in the scope and content of higher education at a time of accelerating expansion of knowledge.

The Report goes on to observe

> It is surprising under the circumstances that the question of achieving efficient use of resources has not been buried in the welter of these other problems. Yet in fact there has been a growing consciousness among administrators, both in educational institutions and in government, that they are responsible not merely for 'producing education' but also for systematic management and efficient use of the resources involved.[1]

The theme of this review is that not only have the Ontario universities been concerned about cooperation, coordination and planning, but in fact they have an impressive record of accomplishments which reflect that concern. In order to provide a satisfactory critique on cooperation, it has seemed useful to review activities of CPUO in more detail than previously. However, this review is not intended as a self-satisfied defence of what has been done. The universities are keenly aware of the need to evaluate and improve their practices at a time when demands on the public purse for a host of socially desirable objectives have never been so large. What follows is a series of assessments of progress in the various areas in which the Committee of Presidents and its affiliates have been active. It adds up to a record of solid progress and should provide, for the sceptic as well as the believer, a basis for confidence in the capacity of the Ontario system to work towards solution of its problems within the type of organizational framework now operating.

The Committee of Presidents is a voluntary organization designed to promote cooperation among the provincially assisted universities of Ontario, and between them and the Government of the Province, and generally to work for the improvement of higher education for the people of Ontario. The name of the organization, which reflects its origins when the only members were the presidents of the universities, is now a misnomer because each university is represented by a colleague elected by the senior academic governing body of the university, as well as its president. The work of the Committee described in the following pages falls into four categories.

The first is a category of *cooperative enterprises.* These are situations in which members agree to have CPUO perform some function for the universities and to commit necessary funds to enable the organization to proceed. Examples include the Ontario Universities' Bibliographic Centre Project and the Computer Coordination Group. The former is aimed at the development of a comprehensive bibliographic resource to serve the needs of all fourteen universities and to serve as a regional centre for a national bibliographic service centred in the National Library. The second, the Computer Coordination Group, is responsible

[1]Economic Council of Canada, *Seventh Annual Review: Patterns of Growth* (Ottawa: Queen's Printer, 1970) pp. 66-67.

for assisting the universities to exploit economies of scale by means such as the utilization of joint purchasing power, the establishment of a system of tariffs for inter-university computer services, and the development of a network of data-communications lines connecting the universities. Activities of these kinds require that CPUO have the authority to manage and make decisions. Since such activities require commitment of funds by the universities to a common purpose, universities in establishing budgets are ratifying agreements reached in the Committee of Presidents. Such ratification provides the authority for CPUO to conduct the programmes.

The second category of activity involves *coordination* — situations in which the object is to devise common policies or standards which will apply to each of the universities. Examples include a system of appraisal for graduate programmes, the development of common admissions practices, the development of compatible information systems as a basis of useful comparisons for planning purposes, the systematic exchange of information about both short-term and long-term goals, the adoption of a method for coordinating enrolment projections. Coordination which will commit universities to *major* new policies cannot be introduced by the Committee of Presidents without reference to the governing bodies (senate or board or both) of the individual universities. That these bodies are capable of adopting policies which involve constraints on their own independence is well illustrated by the approval given to a rigorous system of outside appraisal being applied to every proposal for a new graduate programme. The universities are currently considering the kind of machinery necessary to assess the state of development of various disciplines within the universities with a view to meeting society's needs while avoiding undesirable duplication. This represents a further move towards essential interdependence.

The third category of CPUO activity is *planning and analysis*. Here the object is to examine issues, project trends, identify the need for policies, and reach common positions in order to propose sound policies to government or its agents. This activity involves the Secretariat and subcommittees of CPUO in a large programme of research. During the year, a total of 43 studies were either completed or in progress. These have involved extensive consultation with officers of all the universities aimed at reaching agreement on definitions of data elements concerning faculty, students, programmes, costs and physical space. Compatible information is an absolute requirement for all analyses, and the difficult task of converting all universities to a consistent data base is an essential prelude to efficient planning. The research studies during the year related to the development of recommendations concerning operating grants, modifications of the operating grants formula, capital financing, a formula for capital grants, the allocation of library resources, salary patterns, class size, citizenship of graduate students and faculty, the costs of post-doctoral studies,

engineering education, educational technology, and numerous other subjects. These studies provide a basis for consideration by CPUO (and the Committee on University Affairs) of the issues involved in planning. The studies provide objective comparisons, not always pleasing to the individual institutions, but a necessary part of the exercise of self-examination. In many instances, the ultimate decisions lie with government but the decisions are helpfully influenced by the existence of the analyses and judgments emanating from the Committee of Presidents.

The fourth category of activity is that of *negotiation* with the Committee on University Affairs. This process involves the efforts of joint committees such as those concerned with operating grants and capital financing. These committees, with the help of staff from CPUO and the Department of University Affairs, prepare working documents and recommendations for the consideration of both parent bodies. This close and amicable working relationship has kept misunderstanding and failure of communication between CPUO and CUA to a minimum. In addition to these regular working arrangements, CPUO has been meeting twice a year with CUA for general discusion of the issues and problems as seen from the different vantage points of each body. The result is that CUA does hear and consider the views of CPUO in arriving at conclusions in performing its own role as advisor to government.

The Ontario pattern of coordination is unique, though it has similarities to arrangements in other jurisdictions. The Government of Ontario has established a separate department to deal with university affairs rather than having this aspect of education remain under the umbrella of the Department of Education. The Government in 1964 established the Committee on University Affairs to be its advisor. The Committee is composed of lay members (a majority) and representatives of the academic community. Its powers are strictly advisory, regulatory functions being vested in the Department of University Affairs.

In recent years, the establishment of coordinating agencies has been a common approach to dealing with the problems arising out of the increase in number of campuses in most North American jurisdictions. In an earlier period, most universities were fully autonomous or, within a state, grouped together under a single governing board responsible for public universities. During the last 30 years, the number of states in the United States with no coordinating agency dropped dramatically. Only four remained in 1969. No province in Canada with more than one campus is without some form of coordination. Single governing boards, however, generally have not been the device used to replace systems of completely autonomous institutions. The alternative which has emerged has been the coordinating agency with limited powers. With only occasional exceptions, these agencies have been statutory bodies, having either

advisory or some regulatory powers; they have not replaced local governing bodies. Twenty-five such agencies have been established in the U.S. since 1945, eleven of them with advisory powers (analogues of the Committee on University Affairs) and fourteen with regulatory functions. These have represented, in both Canada and the United States, responses to the tremendous growth in enrolment and expenditures for public higher education during the fifties and sixties.

There are several reasons such agencies have developed, rather than the state-wide governing board which represented the preferred solution in the late nineteenth and first half of the twentieth centuries. Most important has been the demand for diversity in a period of great change. The wide range of programme requirements, often calling for new forms of internal organization (for example, the multi-disciplinary institute), has required a capacity for local initiative. The need for diversity has also made the prospects of operating under a single central governing board, far removed from the complex realities of an individual campus, appear stultifying and unattractive. Another reason for the growth of coordinating agencies has been the increasing difficulty experienced by legislators and governments in sorting out priorities in a highly competitive environment in which universities represent only one of a large number of pressing demands on the public purse. Governments learned during an earlier period of rapid growth that it was an oversimplification to believe that a single, lay governing board could be relied on to protect the public interest. It was generally true that trustees or governors worked to avoid wasting public funds but it was also a fact that they became identified with, and amibitous for, their own institutions. The result, sometimes, was a bias in the direction of the interests of universities, rather than the approach needed by government, a judgment reflecting the public interest. Coordinating agencies, advisory to government, offer a better solution than a state-wide board of regents.

The coordinating agency, however, has not been an entirely satisfactory answer. It stands between the institutions and government and generally has been expected to be neutral. Neutrality is likely to be defined differently by government and the universities. If legislators *see* the coordinating agency biased toward the universities (whether or not bias is real) they will lack confidence in the agency's recommendations and will be impatient for more rapid progress. If the universities *see* the agency as reflecting government concerns and insensitive to university needs they will criticize bitterly what seems to them to be yet another layer of impenetrable bureaucracy.

Herein lies the unique strength of the Ontario system. The Committee on University Affairs is advisory to government. It is balanced by the Committee of Presidents representing the interests of the universities. The Committee on University Affairs is *expected* by both sides to view the development of the

universities from the standpoint of the public interest. The Committee of Presidents, preoccupied with the development of strong institutions, while not insensitive to the public interest, may view the advancement of university education differently than the Committee on University Affairs. The two bodies are poised to balance each other and create for both the public and the universities confidence in the system.

Differences in judgment occur to the point where the relationship may sometimes appear to be that of adversaries. Yet that is not an accurate representation of the relationship. The interface between the two bodies is dynamic (and sparks can fly), but the working relationship between the two bodies is good. Both contribute to the search for sound solutions through joint committees and joint staff work, and through frequent and friendly informal communication. The result is usually a resolution of differences in ways which reflect both sensitivity to the needs of scholarship and keen concern for sound public policy.

The pattern in Ontario, while still subject to refinement and improvement, represents an advanced model of the new kind of government-university machinery which is rapidly becoming the design for the future.

2.

THE COMMITTEE AND ITS RELATIONS

The year 1969-70 saw continued concern over creating more effective organizational means for ensuring a strong and acceptable voice of the university community in Ontario. *Campus and Forum,* the Third Annual Review of the Committee of Presidents, contained a Proposal for Establishing a Council of Universities of Ontario. This Proposal provided for a successor organization to the Committee of Presidents, which would be a Council comprising the president and one other representative from each university. The Council would be supported by a series of programme committees in various academic areas (such as graduate studies, health sciences, etc.) and resource committees in areas such as capital finance, library resources, and computers.

While the Proposal received general support from academic bodies within the universities, opinion varied as to the exact structure which a Council ought to adopt. The Committee reviewed the reactions of the universities and after extensive discussion agreed that it would be desirable for the organizational structure to evolve gradually as the need for change became apparent, since not all of the changes envisioned in the Council Proposal were seen to be equally pressing. First priority was attached to providing for increased representation from each university. (Since September 1967, each president had been accompanied to meetings by a colleague, but this practice had not been accorded formal status.)

A number of alternative means of increasing representation were examined, in particular, alternatives which would give each university two representatives in addition to the president, or weighted representation according to size of institution. It was concluded, however, that these alternatives would create a committee of unwieldy size and therefore of diminished effectiveness.

A constitutional amendment passed at the March 1970 meeting of the Committee provides for each university representation by one member in addition to the president. This member is elected by the senior academic governing body of each university, to serve for a term of one year, renewable; both presidents and colleagues are entitled to send alternates if they are unable to attend

a meeting. Details of these provisions are contained in the revised Constitution of CPUO given in Appendix B.

Following passage of this amendment, the Committee agreed that the future structure of the organization required further careful study and therefore set up a special study subcommittee, chaired by President T. H. B. Symons, to examine the structure of CPUO in relation to other parts of the Ontario university system.

Every two years, the Committee of President receives a report from its Subcommittee on Nominations regarding appointments of CPUO officers and members of subcommittees; such a report was received at the June 1970 meeting. Dr. D. C. Williams, President of the University of Western Ontario, was elected Chairman of the Committee of Presidents and Dr. H. G. Thode, President of McMaster University, Vice-Chairman. The retiring Chairman, Dr. A. D. Dunton, President of Carleton University, who had given sensitive and able direction to the Committee's activities during the past two years, was requested to remain on the Executive Committee as ex-officio Past Chairman. Other members of the Executive Committee are listed in Appendix A. At the time of election in June, fewer than half the universities had selected their non-presidential member, and it was therefore agreed to choose the Executive for one year only from the presidential members; a new Executive, to include both presidents and colleagues, will be elected in June 1971.

Subcommittees and affiliates of the Committee of Presidents are listed in Appendix C, with their terms of reference and current chairmen. Organizational relationships are shown in diagramatic form on the chart at Appendix D.

In June 1970, CPUO decided to discontinue the status of the Ontario College Health Association as a subcommittee, since there had been no business between the Association and the Committee since 1967. This decision reflects the Committee's desire to maintain its subcommittees only where a significant functional relationship exists, but in no way prevents communication between CPUO and the Association if the need arises. The Committee also approved a request for disaffiliation by the Association of Student Awards Officers of the Universities of Ontario, on the basis that a decision by the Association to broaden its membership to include awards officers of other post-secondary educational institutions made it ineligible for continued affiliation under the terms of CPUO's Constitution. Both the Association and the Committee of Presidents wish to maintain contact on matters of mutual concern despite the severing of formal ties.

Several applications for affiliation were received during the year from associations of personnel serving in the universities. Applications for affiliation by the Council of Deans of Arts and Science of the Ontario Universities and by

the Committee of Finance Officers–Universities of Ontario were approved at the September 1970 meeting of CPUO.

The financial statement of the Committee of Presidents for the past fiscal year is presented at Appendix E. Expenditures for the year totalled nearly $600,000 and included establishment of the CPUO Research Division, the Computer Coordination Group, the Ontario Universities' Bibliographic Centre Project, and the Study of Engineering Education. The Committee of Presidents is supported financially by voluntary subscriptions from member institutions.

As noted in the Committee's Annual Review last year, universities by the end of the 1960s found themselves the subject of increased public interest and scrutiny. The days when university affairs aroused little interest in the outside community and universities felt little cause to explain themselves (except perhaps during fund-raising campaigns) have ended. Concurrently, there has been an increased interest shown by all members of the university community, including students, faculty and non-academic staff, in matters which previously were left to administrative officers.

The Committee of Presidents has recognized this changed environment by reviewing its policies concerning information. At the beginning of the year, acting on the advice of its Subcommittee on Information, the Committee began publication of its *Monthly Review* containing reports of items discussed at each CPUO meeting likely to be of general interest and brief reports on CPUO research studies. The *Monthly Review*, which is freely available to any individual or group on request, has been sent routinely to presidents, academic colleagues accompanying presidents to CPUO meetings, and the chief information officers of the universities, as well as to organizations such as the Association of Universities and Colleges of Canada, the Ontario Confederation of University Faculty Associations, the Department of University Affairs, and the Committee on University Affairs. University information officers were encouraged to reprint items of interest in their campus publications, and most now do so regularly. Beginning with September 1970, the *Monthly Review* has been mailed routinely to all members of senates and boards of the provincially assisted universities. Press conferences are now being held after CPUO meetings, as recommended by the Subcommittee on Information, and these have resulted in well-informed coverage of many important issues.

The year 1969-70 saw continuation of the practice of holding joint meetings with other bodies concerned with higher education in Ontario. Joint meetings were held with the Committee on University Affairs and with the Ontario Confederation of University Faculty Associations.

The practice of inviting the Chairman of the Committee on University Affairs to be present for portions of CPUO meetings was continued, an arrangement which provides a valuable opportunity for regular, frank discussion on matters

of common concern. During the year, CPUO proposed to CUA an extension of this practice whereby up to three members of CUA, in addition to the Chairman, would be invited to attend part of each meeting of CPUO. A reciprocal relationship, to have CUA invite representatives of CPUO to attend parts of regular CUA meetings, was also suggested.

An important matter of principle, which led to extended discussions in the past year between CPUO and government officials, was a new regulation by the Department of University Affairs requiring universities to seek approval of all new programme undertakings if government financial support was expected. While this ruling was an extension of a previous regulation pertaining to programmes for which extra-formula support was sought, the Committee of Presidents considered it to be contrary to the principle of university autonomy in academic affairs underlying the system of formula financing. CPUO recognized that it would be reasonable for the Committee on University Affairs to review major new developments, such as new faculties or schools, and accordingly a modification of the Department's new regulation to this effect was proposed at a meeting of CPUO's Executive and the Minister of University Affairs. As an alternative, the Minister asked CUA and CPUO to work out a revised wording of the regulation to indicate that reporting of all new developments was for information, with no requirement of a specific recommendation for support by CUA. The newly worded regulation will take effect in the fall of 1970.

The appointment by the Minister of University Affairs in May 1969 of the Commission on Post-Secondary Education has stimulated consideration within the university community of long-term developments in post-secondary education in Ontario. The Committee of Presidents asked its Subcommittee on Research and Planning to prepare a brief on the philosophy and goals of higher education. The Subcommittee has actively pursued its task and is presently drafting a report.

3.

THE CAPACITY FOR INFORMED JUDGMENT

ANALYTICAL RESOURCES

Capacity for making informed judgments based on careful analysis and exposition of alternatives is fundamental to the effectiveness of any organization. A major strength of CPUO has always been the dedicated work of its subcommittees and affiliated organizations, composed of academics and administrators drawn from the university community. These subgroups advise the Committee on such vital subjects as the operating and capital grants formulae, student aid, student housing, university admission, computers, and library services. However, the benefits to be obtained by such voluntary cooperation have often been limited by lack of compatible data for the consideration of the subcommittees in preparing their recommendations. Recognition of this deficiency led to CPUO's decision to create a substantial research capacity.

The Research Division of CPUO, established in May of 1969 under the direction of Mr. B. L. Hansen, has evolved working relationships with CPUO and its various subcommittees and affiliates. Included in the work of the past year have been the development of a plan for a central information system for the universities and substantial accomplishments in the completion of a number of important research projects.

In the elaboration of the role of the Research Division, care has been taken to ensure that research activities are guided by the Committee of Presidents. A procedure of monthly reporting by the Director of Research at CPUO meetings has been developed. These reports have three components: first, authorization is sought for undertaking any new projects, thus enabling the Committee to consider the desirability and priority of each project and to delineate terms of reference; secondly, progress reports are given regularly on the status of all current projects; and thirdly, completed studies are brought to CPUO for review and decision on further action. In addition, guidelines have been established by CPUO concerning the release of data, to protect confidentiality and the privacy of individuals and institutions; these provisions are discussed in subsequent pages.

A particularly gratifying aspect of Research Division activities during the past year has been the development of good working relationships with other

organizations. Members of the Research Division staff are working in cooperation with staff of the Department of University Affairs on a number of projects, particularly in support of the activities of the CPUO/CUA Joint Subcommittee on Finance and the Joint Capital Studies Committee. In addition, studies have been undertaken in collaboration with the Ontario Confederation of University Faculty Associations. Data-gathering has been coordinated with the Dominion Bureau of Statistics. Members of staff have also had a number of informal consultations with such organizations as the Economic Council of Canada, the Association of Universities and Colleges of Canada, the Department of Manpower and Immigration, the Pay Research Bureau, the National Research Council, and the Ontario Institute for Studies in Education.

Two major categories of research activities are those pertaining to operating grants and those dealing with capital development of the universities. With respect to operating grants, a key activity of the CPUO Research Division has been to collect and present data to the Committee on University Affairs on the need for increased university operating grants to meet rising costs. Central to this research during the past year has been study of academic salaries, and a project is under way, sponsored jointly by CPUO, CUA, and OCUFA, which will pay particular attention to comparisons of academic salaries with those in comparable professions.

Studies have been undertaken to examine various aspects of the operating grants formula in an attempt to assess the validity of weights in various categories and to establish new weights for programmes which have not heretofore been included under the formula. An example of the latter is development of formula weights for programmes of teacher education in universities. These studies have been undertaken by the CPUO/CUA Joint Subcommittee on Finance, assisted by the CPUO Research Division and the Department of University Affairs.

Related studies by the Research Division on operating costs include analysis of extra-formula financial requirements of emerging universities, examination of costs of engineering education for the Study of Engineering Education in Ontario, a survey of numbers and costs of postdoctoral students, comparisons of the costs of university education in Ontario with other jurisdictions and other segments of the educational system, and a study on distribution of class sizes in Ontario universities.

In the area of capital studies, 1969-70 saw completion of a two-year study of the library facilities requirements of Ontario universities to 1975. Work continues in conjunction with the Department of University Affairs (under the auspices of the Joint Capital Studies Committee) on the development of a final capital formula, and a preliminary report on guidelines for facilities planning and a capital formula is expected shortly.

Miscellaneous research activities include a study being conducted for the Ontario Council of Deans of Medicine on the Ontario Hospital Services Commission's funding of medical education, and studies on the citizenship of faculty members and graduate students of Ontario universities.

SHARED DATA

The concept of central sharing of information relating to member universities was first proposed to the Committee of Presidents in June 1968 by its Subcommittee on Research and Planning in a report which stated that such a development would permit orderly gathering and storage of information and provide a dependable instrument for evaluation of proposed policies. At that time, the presidents agreed in principle to take steps to promote the systematic gathering and storage of university data.

Following establishment of the Research Division in the spring of 1969, a meeting of staff of the CPUO Research Division with administrative officers of each university was convened in the summer for preliminary discussion of the concept of shared data. On the basis of this discussion, it was decided to consider foreseeable uses of data, to choose a preliminary list of elements that would satisfy these needs, and to examine in the light of this list of data elements the present state of the universities' information systems.

Later in the summer of 1969, staff of the Research Division visited most of the universities and presented to appropriate officers tentative lists of information elements for records on students, academic staff, space, and operating finances. These discussions resulted in further refinement of the lists of elements.

During several meetings of the Committee of Presidents in late 1969, discussions took place concerning the elements of information to be shared and kept centrally, and on access to and confidentiality of information. Consideration was also given to the feasibility of collecting information centrally only when needed from time to time for specific purposes, rather than sharing certain data routinely. It was agreed that a need exists for centralization of some information but that the amount should be kept to a minimum consistent with the effective performance of necessary analyses.

At a meeting in January 1970, the Committee decided to proceed to develop a central information system and adopted the following resolution:

1. That CPUO plan to proceed with the development of the data bank under its auspices and solicit the endorsement of the Committee on University Affairs and the Department of University Affairs for this undertaking.
2. That CPUO recommend to CUA the establishment of a joint data-bank policy committee to be responsible for defining the content of the data bank.

3. The Capacity for Informed Judgment

> 3. That CPUO undertake to provide CUA and DUA with access to the data bank in keeping with the principles set forth in Section 11.4 pp. 65-71 of the *Proposal for a Central Data Bank on Students and Resources of Ontario Universities* and seek a meeting with representatives of CUA and DUA to discuss these proposals.

Preliminary discussions have subsequently been held with CUA and DUA regarding the extent to which these organizations could cooperate.

In the ensuing months, the Research Division produced and distributed a document, entitled *Supplementary Report #1 to Proposal for a Central Data Bank*, dealing with some of the technical aspects of centralized information, including scheduling and cost.

Beginning in July 1970, a series of meetings was held with university liaison officers responsible for information relating to students, staff, space, and operating finance. At these meetings, revised lists of elements and definitions were put forward for criticism, and on the basis of these initial discussions, revised definitions were made and presented to the universities for further consideration. The whole process will continue until a refined set of generally acceptable definitions is obtained.

ACCESS TO DATA

No one and no organization has the right to complete privacy and no one and no organization in a democratic society can be required to disclose unlimited information. The balance must respect both the right of privacy and the reasonable needs of an organized society. The principle involves the protection of autonomy in the first instance and is well-expressed by Edward Shils:

> Autonomy involves the right to make decisions, to promulgate rules of action, to dispose over resources and to recruit associates in accordance with criteria which the individual or organization deems appropriate to its tasks. The principle of partial autonomy assumes that, by and large, an individual's or a corporate group's life is its own business, that only marginal circumstances justify intrusion by others, and that only more exceptional circumstances justify enforced and entire disclosure, to the eyes of the broader public, of the private affairs of the corporate body or individual.[1]

The Government of Ontario, through the Department of University Affairs and the Committee on University Affairs, has a major interest in data about the universities because in the last analysis it is responsible and accountable for large sums of public money. Indeed, under today's circumstances, the Government of Ontario has close to total financial responsibility for the universities (except for research). However, the Government on numerous occasions has emphasized its wish to respect the autonomy of the universities.

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[1]Shils, E. A. *The Torment of Secrecy* (Glencoe, Ill: Free Press, 1956) pp. 21-22.

The basis for defining appropriate access to data for bodies with statutory responsibilities should be the *need* for data necessary to discharge responsibility under normal conditions. If the terms of reference of a government organization call for discharging responsibilities that make access to a certain type of information necessary, then that organization has a legitimate interest in and need for such information and must be considered to be entitled to that information. Thus, for example, the Department of University Affairs must be considered to be entitled to information on student enrolment in the universities by programme and year, but not to individual student records. This is so because information on individual students is unnecessary for reporting on the operations of the universities to the Minister of University Affairs.

Policies developed by CPUO governing the release of central data differentiate between system-level and university-level information. Reports at the system level would submerge the identity of the universities from which the information originated. Any degree of detail contained within the information in the proposed central files could be reported at either of the two levels. The only difference between reporting at the system level and reporting at the university level is that, in the former case, the ability to discriminate between universities is lost.

In order to determine entitlement to data, the proper assumption is that DUA and CUA will require and will be provided with the information necessary to carry out their functions. DUA's function is to advise the Government on the levels and kinds of support needed for the universities and to administer such programmes of support as the Government may determine. The role of CUA, as defined in the Order-in-Council creating it, is to study matters concerning the establishment, development, operation, expansion and financing of universities in Ontario and to make recommendations thereon to the Minister of University Affairs for the information and advice of government. An addendum CPUO would add to these responsibilities of CUA and DUA is that they should be performed with the least possible interference with the universities.

It follows that CUA and DUA require access to a wide range of information about the university system as a whole. In general, they require the same information about the system as do the universities themselves in order to analyze the various issues and reach rational conclusions about policy.

To what extent should CUA and DUA have access to information about individual universities? Here the situation is more complicated. The independence of universities, it has been argued, should embrace four freedoms: the freedom to determine who shall be taught, what shall be taught and who shall teach, and the freedom to distribute financial resources as the university sees fit.[2]. These freedoms are not absolute and in practice are subject to severe con-

[2]Bissell, C. "The Independence of Universities." *Varsity Graduate* (Summer 1963) p. 16.

straints. The level of financial support places constraints on decisions about who shall teach. Government concern about manpower requirements on the one hand, and unnecessary duplication of effort on the other, must be taken into consideration in determining both who shall be taught and what shall be taught.

It is evident that CUA and DUA, in order to meet their responsibilities, may from time to time need data about individual universities. In the interests of preserving university autonomy CUA and DUA should limit such requests for information to *numbers* — whether of students, of faculty and staff, or of dollars. This policy would tend to reserve to the universities consideration of the *quality* aspects in dealing with the questions who shall be taught, what shall be taught, who shall teach and how shall resources be allocated. The universities for their part need to develop a collective capacity to examine questions of province-wide need and prevention of undesirable duplication. Competent exercise of such a capacity will satisfy the Government and make intrusion into university decision-making by CUA or DUA unnecessary.

The universities will have access to all of their own information and to any CPUO analyses of this information, but not to any information about other universities unless written permission to release such information is obtained and presented to the CPUO office. The universities will also have access to all system-level information. If, in their negotiations with any university, CUA or DUA request and receive detailed information for comparison with other universities, then the universities involved will be permitted access to identical information.

All of the other sources of inquiry have no legitimate interests in university-level information and would be permitted access only to system-level information, unless a university desires and authorizes release of its own data.

The above considerations lead to several conclusions:

(a) CUA and DUA must be entitled to system-level information and to aggregate quantitative data about individual universities but they should exercise the latter entitlement with as much restraint as is consistent with performing their duties.

(b) CUA and DUA should address requests for information identifying individual universities to these universities rather than to CPUO.

(c) CPUO should respond to requests for information identifying individual universities only after authorization from the universities.

(d) When CUA or DUA is to receive information comparing individual universities, the universities concerned should be entitled to receive the same comparative information.

(e) The individual universities should normally have access to all system-level information, and to their own information and any CPUO analyses based upon it.

(f) All other parties should have access to system-level information and analyses only.

While the above guidelines can be expected to serve adequately and without giving rise to disagreement in the majority of cases, occasions may rise when differences of opinion become evident about the propriety of releasing certain data. In such cases, in line with established practice on other issues, the appropriate CPUO/CUA joint subcommittees should review the proposal in question and try to reach agreement. If agreement is reached, the data should be released. If agreement is not reached, the case should be referred to both CPUO and CUA for consideration. This procedure will ensure proper review of questionable cases.

In certain instances there may be reason to deviate from the above general policies because it may appear to be in the public interest to release information categorized by university. The following additional guidelines will prevail for dealing with exceptions:

(1) Where it appears to be in the *public interest,* CPUO will make available information *by university* provided the privacy of individuals is protected.

(2) In each case, CPUO, at a regular meeting, will make a decision whether or not to release information *by university*.

(3) Annual or up-dated reports, once released *by university,* will thereafter be released automatically.

(4) Universities responding to requests from government agencies for information should provide CPUO with the same information.

4.

TOWARDS COLLECTIVE EXCELLENCE

THREE YEARS OF GRADUATE PROGRAMME APPRAISALS

One of the first concrete results of the vigorous debate touched off by the Spinks committee's report[1] on graduate education in Ontario was the creation of procedures for voluntary appraisal of graduate programmes. The appraisal scheme began in January 1967, and early in 1970, the Ontario Council on Graduate Studies issued a report entitled *The First Three Years of Appraisal of Graduate Programmes*. The report reviews the activities of the Appraisals Committee during this period and provides a description of the procedures under which the Committee operates.

Inception of a plan for central review of the quality of graduate programmes in Ontario generated a predictable amount of controversy at the beginning. However, despite the wide array of understandable doubts and fears on the part of the academic community, shortly after the Council published its by-law establishing an Appraisals Committee all of the provincially assisted universities expressed their intentions to submit proposed new graduate programmes for appraisal.

In the first two-and-a-half years of operation, 72 submissions for appraisal were received by the Committee; statistics on the disposition of these applications appeared in the Committee's report. During 1969-70 decisions were released on 27 submissions. At the doctoral level, four programmes were approved to begin immediately and three approved to begin with one or two years' delay. At the master's level, 15 programmes were approved to begin without delay, two approved with one or two years' delay, and three refused. In addition to these submissions, on which decisions were released, a number of submissions were withdrawn before reaching the final stage. Universities can withdraw submissions during the course of an appraisal if it becomes apparent that they are not likely, as proposed, to be favourably appraised; this tends to reduce the number of programmes actually refused by the committee.

As the work of the Appraisals Committee has progressed, its procedures have been refined, and the process of appraisal has increasingly taken on the

[1] *Report of the Commission to Study the Development of Graduate Programmes in Ontario Universities* (Toronto: Ontario Department of University Affairs, 1966).

character of a collective enterprise instead of appearing as an arbitrary exercise of external sanction on the legitimate aspirations of university departments. Today, the process of appraisal is an accepted part of the academic scene in Ontario and is viewed as a keystone of the collective excellence of the universities of Ontario.

Apart from its direct object of certifying that graduate programmes in Ontario universities meet minimum standards of academic quality, the appraisals procedure has produced a number of indirect benefits. The very existence of the Committee has promoted careful planning within individual universities and departments and provided a general stimulus to the development of high-calibre advanced studies and research. In addition, the appraisals procedure has set a pattern for cooperation among the universities in academic matters and led to consideration of other essential aspects of collective endeavour.

COORDINATED PLANNING OF ACADEMIC DEVELOPMENT

Having set up the appraisals procedure, the Council on Graduate Studies then gave its attention to the question of rational planning of the development of graduate work in the province. In May 1968, a general meeting of some 450 representatives of various disciplines was called and addressed by the then Chairman of the Committee of Presidents, Dr. J. A. Corry. Dr. Corry called for a firm commitment on the part of the universities to a cooperative approach to the planning and organization of graduate studies. It was proposed that representatives of each discipline gather together to review the existing development of programmes in the discipline, define core and specialized areas of study, consider possibilities of interuniversity cooperation, and identify underdeveloped areas of study.

As a result of that meeting, groups were organized in thirty-three disciplines. Early in 1970, groups were established in nine additional areas. The Ontario Council on Graduate Studies has monitored the progress of the discipline groups through its Advisory Committee on Academic Planning. About half the groups have been active; some have submitted full and thorough reports, and others have submitted preliminary progress reports and are continuing their efforts. It is apparent that a number of groups have reached a point where further advice and direction is needed from the Committee of Presidents and that others which have not been active need to be encouraged. Mechanisms for ensuring sustained attention to the work of discipline groups are presently being considered.

A significant innovation in the year under review was the development of interuniversity graduate programmes in certain fields. The first such coopera-

tive programme, now in operation, is the Ontario Cooperative Program in Latin American and Caribbean Studies (OCPLACS). Founding universities are the University of Guelph, McMaster University, Queen's University, and the University of Waterloo. Fields of study represented in the Program include agricultural engineering, agricultural extension, anthropology, business, ecology, economics, geography, geology, history, pedology, political science, regional planning, literature and sociology. The Program does not offer its own teaching programme or prepare students for special degrees. Each student associated with OCPLACS will register in an existing graduate programme in the university of his choice. He will, however, have the benefit of a number of cooperative activities. These include a library coordination scheme, coordination of research activities, arrangements for students to take classes in universities other than their own, and periodic interuniversity interdisciplinary seminars for both students and faculty.

Another joint programme is presently in the planning stages, in this case in a single discipline. Guelph and McMaster universities have applied jointly to the Appraisals Committee of OCGS for approval of a cooperative programme in Philosophy. It can be anticipated that as the work of discipline planning proceeds, such collaborative enterprises will become more common. Numerous other specific examples can be cited of cooperative activities initiated by two or more universities, faculties, or departments within the system of universities in Ontario, not necessarily as a response to the May 1968 meeting of discipline groups, but in anticipation of deriving some mutual advantage. Geography has inevitably tended to dictate relationships that have evolved, as is indicated by some of the existing patterns of cooperation, such as between the two universities at Ottawa, between Brock University in St. Catharines and McMaster University in Hamilton, between McMaster and the University of Toronto, between the universities at Guelph and Waterloo, between Trent and Queen's universities, and variously among other universities proximately located in southern Ontario. Examples of cooperative programme undertakings are to be found in all academic areas — sciences, humanities, social sciences and the professions. In health sciences, where teaching and research activities require the use of costly equipment and facilities, there is an awareness of the necessity to avoid duplication of effort which has brought about a growing degree of cooperation among the schools and faculties in the provincially assisted universities, and between them and their counterparts in other provinces and in the United States. Several of the universities have reported that they are cooperating with nearby colleges of applied arts and technology to provide joint programmes or share facilities. A number of the provincially assisted universities have established arrangements to share access to expensive, highly specialized equipment, such as cyclotrons, accelerators, a nuclear reactor, and electron microscopes.

As a recent notable example of collective action, certain of the provincially assisted universities, in cooperation with other Canadian universities, government and private agencies, took leading parts in developing the Huntsman Marine Laboratory in New Brunswick, which was officially opened during the past summer. Many of these efforts are recent undertakings; there are clear indications that increasingly the universities are looking to cooperation with other institutions as an effective means to bring about operating economies and at the same time achieve a high degree of academic excellence.

To further the work of planned cooperation between the universities, CPUO is presently giving consideration to specific proposals to establish an Advisory Subcommittee on Academic Planning. This Subcommittee would take under its purview the whole range of academic development, graduate in particular, but undergraduate as well if there was reason to do so. It would have the specific function of conducting discipline assessments at the request of CPUO. Under the proposal, CPUO may request a discipline assessment on its own initiative, or at the request of a discipline. Such assessments would be major undertakings, leading to a definitive disciplinary plan, and thus would be undertaken only when there was a clearly demonstrable need. Initiation of discipline assessments might be prompted for a number of reasons: for example, concerns about duplication of programmes, or apparent gaps in programmes, or effective level of activity in any programme or programmes.

Discipline assessment differs from programme appraisal chiefly in that the latter focuses on the academic quality of a given programme at a single university, while the former involves consideration of total provincial needs and resources. There may, for example, be special facilities (personnel, library, equipment) or even geographic circumstances which make a particular university a natural choice for development of some aspect of a discipline. At the time a discipline assessment is conducted, it may appear that the needs of our society are not being met, or on the other hand that the manpower requirements for a period are smaller than the forecast supply of competent graduates. These points are, of course, readily identifiable by a discipline group, and it is intended that these groups be heavily involved in arriving at recommendations.

The Committee of Presidents has approved the proposal in principle, and it has been forwarded to academic governing bodies in the universities for consideration and comment. General reaction is favourable, but the final form of the proposal is not yet settled.

The attention being given by CPUO to the planning of academic programmes should be taken by the public as an indication of the ability and the willingness of the Ontario universities to maintain within a pattern of collective autonomy that diversity of emphasis which is not only desirable but necessary for their continued intellectual vigour. The proposals should ensure that the collectivity

of universities will have the opportunity of exercising judgment on essential planning matters, forestalling the likelihood of having academic policies established by authorities beyond the control of the universities. More positively, it can be argued that it is to the common advantage of the universities to take counsel together to deploy human and material resources so as to produce collective excellence, for the alternative is likely to be a dissipation of resources, leading in many cases to mediocrity.

One large-scale prototype for the discipline assessment procedure is the Study of Engineering Education in Ontario, which was begun in October 1969 under the direction of Dr. P. A. Lapp. Dr. Lapp, formerly a senior executive officer in a Canadian aerospace products company, was appointed to direct a comprehensive study which would develop recommendations on evolution of the pattern of engineering education in relation to the character and needs of the province and the country. He heads a study group of three; the other members are Dr. J. W. Hodgins, formerly Dean of Engineering at McMaster University, and Dr. Colin B. Mackay, formerly President of the University of New Brunswick. Dr. Hodgins brings to the study many years of academic experience in Ontario as an eminent engineering educator, while Dr. Mackay, who is not an engineer, brings a broader perspective, a view of engineering education in the context of the overall needs of society.

For the study, universities provided detailed submissions with statistics on curriculum, enrolments, research, staff, students and facilities for both graduate and undergraduate programmes. Views were sought from faculty members of the universities. A separate survey was conducted in which the attitudes of students on specific issues were assembled from several hundred respondents throughout the province.

Universities across Canada were visited by the study group, as well as in the United States (including California, New York State and the Atlantic seaboard). The Director visited engineering schools and related agencies in Germany, Sweden, France and Great Britain. The study group also held discussions with various university organizations, federal and provincial government departments, Canadian and American professional societies, and other educational organizations. Attention was directed to Canadian industry, and a total of twenty-one major companies were visited. Finally, the study group visited several of the colleges of applied arts and technology and held an interview with the Committee of Presidents of Colleges of Applied Arts and Technology. In all, about 130 separate, specific interviews were conducted, many involving several sessions.

Concurrent with the main work, a separate team conducted a study on skill substitution and manpower requirements as related to engineering; this work was funded jointly by the Canadian Department of Manpower and Immigration

and the Ontario Department of Education. A study on university expenditures for engineering was carried out jointly by the Research Division of CPUO and the study group. Another study on enrolment projections was carried out by the study group. The results of each of these three studies will be published as separate reports.

The main report for the Study of Engineering Education in Ontario is expected to contain recommendations concerning curricula, undergraduate and graduate programmes, research policies, teaching staff, relationships with professional organizations, continuing education, and overall plans for an engineering education system in the province. Reports arising from the Study will be published late in 1970.

5.

COOPERATIVE ACTIVITIES

LIBRARY SERVICES

Both the interuniversity library transit system and the library cooperative use agreement have now completed three years of operation. The latter arrangement enables faculty members or graduate students to visit a cooperating library in the system and use its facilities. The transit system is designed to carry library materials between the provincially assisted universities. A fleet of stations wagons visits twelve of the fourteen universities daily to collect and deliver materials requested on interlibrary loan; the vehicles are also licensed to carry passengers to facilitate the cooperative use agreement. Lakehead and Laurentian, the two northern universities in the system, are served through air-express shipments of loaned materials.

A major accomplishment of the transit system has been reduction of the interval between request and delivery of materials; the system makes it possible to transport loaned materials from source to destination in twenty-four hours. Some thirty thousand items were exchanged through the system last year, an increase in volume of about 8% over the preceding year. There is still a capacity for further expansion without having to provide additional facilities. A link was recently established between the Ontario transit system and its counterpart serving the universities in the Province of Quebec, with the University of Ottawa Library serving as the point of contact. There was heavy volume of inter-provincial lending during the first six months of cooperation with the Quebec system, accounting for about one quarter of all materials carried by the Ontario transit system.

During the year 1969-70, the Ontario Council of University Librarians managed a trial depository and clearinghouse service for duplicate holdings of the university libraries, operating in space made available by McMaster University Library. Some two hundred thousand pieces were deposited and cleared. This service has benefited the university libraries by getting little-used materials into circulation and by freeing shelf space for some universities. Consideration has been given to setting up a depository as a continuing operation, possibly at the national level.

The year under review saw the inauguration of the Ontario Universities' Bibliographic Centre Project (OUBCP) with the appointment of Mr. C. Donald Cook as Research and Planning Officer in October 1969. The OUBCP operates under the direction of the Advisory Joint Council on Coordination of Ontario University Library Research Facilities, which is a joint body of the Ontario Council on Graduate Studies and the Ontario Council of University Librarians.

Among the possible areas for interlibrary cooperation, those centring around knowledge of resources are of primary importance. Intelligent rationalization of interlibrary policies and programmes cannot be effective without information on available library materials. Consequently, an initial concern of the project has been the feasibility of a union catalogue of Ontario university library holdings. Analysis of this problem has led to the recommendation that efforts to develop a union catalogue for the fourteen participating libraries be joined with the announced intention of the National Library of Canada to develop a machine-readable national union catalogue. CPUO accepted the recommendation in March 1970 and made formal requests to the ministers responsible for the national libraries that full support be given to the development of a machine-readable national union catalogue as rapidly as feasible. To this end, close liaison has been established between the OUBCP and the National Library and the National Science Library in order to further joint and compatible development efforts and eliminate duplicative expenditures.

Whether provincial or national, interlibrary cooperative enterprises require the establishment of mutually acceptable standards of various types. The OUBCP initiated in January an effort among the fourteen Ontario libraries to achieve standardization of those bibliographic records which would form the basis for union catalogues. This Ontario initiative was extended to the national level by the National Conference on Cataloguing Standards called by the National Librarians in May 1970.

In addition to its association with the plans of the National Library, the OUBCP has established liaison with similar provincial and regional groups with library interests elsewhere in Canada: the Association of Universities and Colleges of Canada, the Comité de Coordination des Bibliothèques Universitaires du Québec, the Interprovincial Committee on University Rationalization, the Council of Western Canadian University Libraries, and the three university libraries of British Columbia, as well as with cooperative library organizations in the United States and Great Britain.

Further work is being devoted to the strengthening of interlibrary lending. A study is under way to analyze the characteristics of interlibrary loans to determine in detail the subjects, languages, date periods, types of publications, types of users and other aspects of the materials actually requested. The results of the study will indicate which types of needs can be satisfied within the sys-

tem, which can be filled elsewhere within the province and within Canada, and those for which Ontario university librarians have to go to the United States and abroad. By indicating specific gaps in research collections, the study should offer guidance in selection policies for the future.

The coordination of technical processes, and the possibility of providing centrally some or all of these services, is a long-range programme. In addition to the current efforts towards standardization, plans are under way for a feasibility study which will determine current practices and their costs in more detail than has heretofore been available. The results will offer a means for determining the possible extent and costs of uniform practice. In a related project, Waterloo, Windsor, and York universities have arranged with the University of British Columbia, Simon Fraser University and the University of Victoria to share responsibilities of current cataloguing and to exchange for each other's benefit the records which result; if this experiment proves successful, it may be possible to extend the scheme to other Ontario libraries. Still another step in the coordination of technical services is the current interest in extending the use of the computer-assisted system of government document organization developed by Guelph, with the participating libraries sharing the responsibilities for analysis and coding. It is impractical at the present time to superimpose a uniform, centralized technical-processing system on fourteen complex and divergent existing systems, but by taking component parts and developing compatible cooperative approaches, important advances can be made.

Specialization and rationalization of collections is also a programme of long-range implications; effective specialization of library holdings comes only in response to the rationalization of research and graduate programmes among the universities which the libraries are serving. This latter is developing over a period of time; meanwhile, the OUBCP is cooperating with the Special Subcommittee on Assessment of Graduate and Research Library Requirements and the National Library's Office of Library Resources in the study of selection policies and collection development.

Work has begun on means for analyzing use of library materials in those libraries having computer-assisted circulation systems. Results from these studies should offer guidance in the management of reserve book services, the efficient duplication of heavily used materials, and the gradual determination of those sections of collections which are little-used and which might be subject to some form of non-traditional storage and servicing. More detailed study of current and potential computer applications is anticipated, with a view to extending compatible activities, exchange of programmes, and the introduction of automation into additional areas not now covered.

One of the principal problems in developing cooperative activities is assuring effective communication among participants. The OUBCP is devoting con-

siderable effort to fostering the exchange of documentation and the meeting of staff on an operating level in order to assist in making more effective the decisions on cooperative efforts.

Certain of the terms of reference of the OUBCP have been carried out during the past year and others remain to be completed; in some respects these terms of reference serve not only as aims for a specific project, but as guidelines for the continuing activity of a bibliographic centre. It seems unlikely that a period of research and planning can be defined and terminated at a given point in time; continuing activity often develops discrete operational activities which can be clearly defined and approved for action. The specific activities of a bibliographic centre will change as the degree of cooperative action increases, but it is increasingly apparent that the goals of an Ontario university library system can most effectively be met through the continuing operation of such a centre.

The new Humanities and Social Sciences Research Library of the University of Toronto is nearing completion. This library will provide a centre for scholarship which will be an important resource for all the universities. In addition, it will contain the physical facilities for the developing Bibliographic Centre.

An oft-repeated criticism, levelled by university administrators, faculty and students alike, is that library holdings in many of the Ontario universities are inadequate to support programmes at the graduate and research levels. Recognizing the necessity to find means to measure the adequacy of library collections, the Committee of Presidents in 1968 established a special subcommittee to study library needs at the graduate and research level. The Special Subcommittee on Assessment of Graduate and Research Library Requirements was asked to develop a method of assessing the extent to which Ontario university libraries are adequate to support programmes of graduate study and research, and a method of estimating all related costs, and as such methods are developed and approved, to proceed to their application. The Special Subcommittee presently has under way projects to evaluate three approaches to assessing the adequacy of library holdings: use of thesis-citation studies, analysis of the library sections of documents used in the Appraisal Procedure for graduate programmes, and utilization of formulas.

Admittedly, the Special Subcommittee's tasks are formidable. Attempts made in other university jurisdictions to achieve similar results have been unrewarding. The Clapp-Jordan formula[1] (the method most widely known and used to assess the adequacy of library collections), for example, does not sufficiently take account of differing library requirements among the various disciplines

[1]Clapp, Verner W., and Jordan, Robert T., "Quantitative Criteria for Adequacy of Academic Library Collections" (*College and Research Libraries,* Vol. XXVI, September 1965) pp. 371-380.

taught in universities. There are severe limitations on the extent to which it will ever be possible to measure library collections in strictly quantitative terms.

However, despite a slow rate of progress to date and uncertainty about chances of succeeding, the problem of assessing library needs cannot be ignored. In the forthcoming year, the Committee of Presidents will have to review carefully the endeavour to assess library needs of the provincially assisted universities.

Concurrent with efforts to assess the adequacy of graduate library holdings, studies have been under way to provide a planning framework for development of library facilities. In June 1970, the Committee of Presidents received the final Report of a two-year study which sought to determine capital requirements for development of Ontario university libraries to meet anticipated enrolment levels of 1975-76. This study had come about as a result of a decision of the Committee on University Affairs in June 1968 to withhold approval, pending submission of additional documentation, on universities' requests for funds to expand library facilities; these requests were approved later that same year. Meanwhile, at CPUO's request, the Ontario Council of University Librarians had undertaken an initial assessment of need for library facilities. A report was submitted to the Committee of Presidents in April 1969, and at that time, the Committee requested its Research Division to refine the data and analyses. At its meeting in June 1970, the Committee agreed to forward the results of the Research Division's study to the Committee on University Affairs. The Report has been submitted to CUA with a caution that the analyses and results shown for individual universities were to illustrate the effects of applying the planning criteria used for the study, and not to indicate patterns for allocation of resources for libraries in individual institutions, since the basis for deciding internal capital priorities of the universities would likely differ from assumptions made in the study.

The study produced estimates of minimum space and capital requirements, as well as estimates of operating funds needed as a consequence of planned capital spending. Planning criteria relevant for the Ontario university system were chosen for the study after a careful analysis of criteria utilized in a number of other jurisdictions. These criteria show the need for an additional 1.0 to 1.4 million gross square feet of library space, producing a total additional capital requirement of the order of $40 million in the period to 1975-76.

While there are limitations on the extent to which detailed findings of this study can be applied to individual universities, CPUO believes the report provides a careful estimate of the total financial commitment required to provide minimum university library facilities for expected levels of enrolment in the period studied. Since construction of new facilities requires considerable lead time, these results will have implications almost immediately in the context of planning the total capital development of universities.

For the planning horizon used (to 1976) a methodology which was essentially an extrapolation of current library policy to meet future demand was utilized. It is clear, however, in the longer term that development of new technologies portends fundamental changes in methods of storing, cataloguing, and retrieving information. Indeed, such fundamental changes will be necessitated by the exponential growth of published materials which is inundating the intellectual world. It must be acknowledged, however, that considerable time, effort and resources will have to be expended before such new technologies become operational to any significant extent; in the meantime, more realistic shorter-term solutions will be necessary.

INSTRUCTIONAL TECHNOLOGY

There have been a number of developments in the past year in the area of educational communications, many centering on activities of the Ontario Universities' Television Council (OUTC). Established in 1965 as an affiliate of the Committee of Presidents, the Ontario Universities' Television Council has been charged with the task of advising and assisting the Ontario universities in the development and use of television for teaching. During the past year, the Council gave consideration to broadening its mandate to offer advice and assistance on all types of audio-visual aid to higher education. The Council also decided to increase its membership to two representatives from each university and is considering a change of name to the Ontario Universities' Council for Educational Communications.

The Council provides a forum for the discussion and exchange of ideas in the field of educational communications. Through its central office, the Council operates a mailing service for disseminating in the Ontario universities significant current information in the field of educational communications. The Council manages the universities' cooperative film-purchase scheme, which affords participating universities the opportunity to share in the purchase and use of exceptional educational films. A group of universities were recently fortunate to acquire the widely acclaimed BBC-produced film series "Civilisation" written and narrated by Sir Kenneth Clark.

During the year, the Association of Universities and Colleges of Canada announced its decision to establish a learning-media office to serve the universities nation-wide. Both the Television Council and the Committee of Presidents have endorsed the proposal to develop the AUCC office, and certain functions previously performed by the central office of the Television Council will be transferred as soon as feasible to the national office. Among the activities which would be transferred to AUCC are the arranging of symposia and conferences

on instructional media and the distribution of current published information of interest to media personnel in the universities. The Ontario Council expects to continue to provide information of specific interest to the Ontario universities and to manage the universities' cooperative film-purchase scheme.

One of the tasks performed by the Television Council for the universities was to establish liaison with the Department of Education on the development of an educational television network in Ontario. In June of this year, an act was passed in the Ontario Legislature to establish the Ontario Educational Communications Authority as the agency responsible for educational broadcasting in Ontario in place of the Educational Television Branch of the Department of Education. Early in 1970, the Canadian Radio-Television Corporation announced approval of an application by the CBC to operate UHF Channel 19 for the Ontario Authority. The first of a series of educational television facilities planned for Ontario, Channel 19 began telecasting this fall in Toronto.

For purposes of communication and cooperation between the Ontario universities and government agencies responsible for educational television, CPUO last February authorized establishment by the Ontario Universities' Television Council of regional committees for university-level educational broadcasting. The first of these, the OUTC Channel 19 Subcommittee, has been set up under the Chairmanship of Dr. A. C. Johnson, Vice-President (Academic Services) of York University. The membership includes both professional and academic representatives of the six universities (Brock, Guelph, McMaster, Toronto, Waterloo and York) in the area being served by Channel 19, as well as the Executive Director of CPUO. Terms of reference involve establishment of working relationships with the Ontario Educational Communications Authority and with Channel 19 and the universities within broadcast range on their respective responsibilities, functions, and financing concerns related to university-level programmes.

A matter of concern to the Television Council during the past year arose in connection with plans for the release and distribution of CBC-produced films. It had come to the attention of the Council that CBC was negotiating with a private Canadian firm engaging in the sale and rental of films to handle the post-television release of selected CBC productions. A letter was sent to the Canadian Broadcasting Corporation to urge reserving distribution of the CBC materials for educational and cultural purposes and to suggest alternative arrangements to handle distribution, including the possibilities of having the National Film Board or the Canadian Film Institute serve for the technical and distribution functions, or of establishing an independent non-profit corporation for this purpose. The CBC has replied that the National Film Board has been brought into the discussions and that the Corporation will discuss other possible arrangements for distributing post-broadcast materials.

The challenge to use technology as a means to enhance university-level education has led to a decision by the Committee of Presidents to co-sponsor with the Committee on University Affairs a study of educational technology. For purposes of the Study, educational technology has been broadly defined so as to include, but not necessarily be limited to, closed-circuit and broadcast educational television, other audio-visual media, and programmed instruction, including computer-assisted instruction. The Study will focus critically on both benefits and costs in relation to benefits and will include examination of literature and investigation of notable experiments elsewhere, as well as a study of past and current applications of educational technologies in the Ontario universities.

A Joint Steering Committee on Educational Technology has been set up with membership comprising Dr. D. C. Williams, Chairman, and Dr. J. B. Macdonald, Executive Director, of CPUO, and Dr. D. T. Wright, Chairman, and Dr. J. G. Parr, member, of the Committee on University Affairs. In May 1970, Mr. Bernard Trotter was seconded from Queen's University to direct the Study, drawing on the services of qualified consultants as necessary.

Considerable variety of opinion exists, most often without factual basis, concerning the cost and value of communications technology in education, and an important aspect of the Study of Educational Technology will be the attempt to separate fact from fancy. Both governments and the universities face the prospect of escalating rates of expenditure for university-level education to provide for rising enrolments. The necessity to explore new avenues, in order to maintain desired high levels of achievement in the Ontario universities and at the same time make the best possible use of available financial resources, lends import to this joint effort to examine potential applications of technology. For such reasons, the sponsoring groups have requested an early completion date for the Study. An initial report is expected at the end of 1970.

GETTING COMPUTERS TOGETHER

In June 1969, government endorsed the decision of the Committee of Presidents to establish a full-time Computer Coordination Group (CCG). This decision arose from recommendations contained in the final report of the Joint Ad-Hoc Subcommittee on Regional Computing Centres, which had been formed in 1968 by CPUO and the Committee on University Affairs to study and advise on questions relating to the establishment of a regional computing centre in Ontario. The recommendations departed from the original notion of setting up a regional computing centre and suggested the desirability of investigating alternative patterns to provide for the universities' computing needs.

5. Cooperative Activities

The objectives of CCG are, first, to enable the universities to exploit the economies of scale which can be derived from their aggregate purchasing power of computer services, in such a way as to negate the effects of geography as far as practicable; second, to ensure that the universities are kept informed about developments in computing technology; and third, to study and advise on future arrangements for cooperation among the universities in the provision of computer services, and on methods of financing such arrangements. The Committee of Presidents serves as the management board for CCG, with responsibility for policy and budget. The Executive Director of CPUO has set up a non-technical Management Advisory Committee on Computer Coordination charged with advising him with respect to day-to-day operating decisions on CCG, and with assisting him in the formulation of policy recommendations to the Committee of Presidents. The actual work of the Computer Coordination Group began in September 1969 with the appointment of Mr. Maurice P. Brown as Director. The task of advising CPUO in respect of technical aspects of CCG activities was assigned to the Subcommittee on Computer Services (Technical Committee, CCG).

Early in the planning of activities of CCG, it was recognized that computer technology was changing rapidly and that applications of computers to new areas was expanding. Also, computing in universities, which had previously been available to users as a free resource, was moving into a market situation in which users would have to pay for the computing services they consumed. A major impetus for this change was the decision by government in 1969-70 to end its policy of providing earmarked special grants for university computing and in future to provide funds for this service as part of operating grants. Decisions to develop and use computer technology will now have to be taken on the basis of the relative worth of computing vis à vis other services provided in universities. The decision of the National Research Council to phase out direct payment of grants to universities to support computing and to pay funds for purchasing computing direct to the individual recipients of NRC grants, will serve also to further the momentum to change to a payment-for-services basis for computing in universities. In line with these new developments, the Committee of Presidents, in approving a plan for the activities of CCG, gave a three-fold directive: that the universities should be prepared for the era in which computing services would be purchased with real dollars spent in a free market; that the computing resources in the universities should be utilized to the maximum benefit of the university system, through bilateral and multilateral arrangements; and that the universities should be provided with the data necessary for planning university computing services.

The first significant contribution of the Computer Coordination Group was in the work of its Task Force on Computer Charging, which was asked to make

an analysis of the problems of costing, pricing and budgeting computing services. The findings, which are contained in the report of the Task Force[2], include proposals for the application of costing procedures to computing services, the treatment of capital as a cost item, the introduction of user-controlled funding of computing services, and recommendations on inter-university trade in computing services. The work of the Task Force has made a valuable contribution to rationalization of computing services; a follow-up study on the specific application in the universities of the principles in the report is being pursued.

The new technology of interactive computing, or time sharing, became a subject of general interest to universities during 1969, and the Computer Coordination Group established a Task Force on Time Sharing to identify the needs of the universities in this area, and to make recommendations on meeting those needs.

Some of the projects in which CCG has been engaged have arisen from proposals by the universities, which were reviewed by the Technical Committee and the Management Advisory Committee and approved by CPUO. York University had submitted a proposal for the production of a series of videotaped lectures on a commonly used programming language, FORTRAN. This project was considered a useful beginning to cooperation in the area of training aids, which could yield worthwhile benefits and economies through joint planning and production. These include improvements in the quality of training, through the development of common courses by the universities and through participating in training sessions at universities with specialized services or expertise, as well as budget savings through elimination of redundant courses, cooperative purchase of training aids, and by keeping the size of training staffs to a minimum.

An area of increasing importance in the computer field is computer system performance measurement and evaluation, which involves the development of ways to tune computer systems to increase performance. The Computer Coordination Group has set up an inter-university group concerned with planning and coordination of performance measurement in the universities. Testing equipment at the University of Guelph is being used to measure performance of computer equipment. The efforts of this group are expected to contribute to improving performance of existing equipment and to assisting those responsible for managing university computing facilities by providing the kinds of information needed for facilities planning.

In the past year, the computer industry changed its philosophy of pricing. At one time, a university buying a computer automatically acquired, at no added cost, all of the programmes or programming systems needed; the trend

[2]"Report of the Task Force on Computer Charging" (Ottawa: Computer Coordination Group, 1970).

now is towards pricing of programmes, or software, separately from computer equipment, or hardware, and some evidence suggests that for the future an increasingly large percentage of the universities' computing expenditures will go to software. University computing centres have growing libraries of programmes requiring further development, maintenance and upgrading. With McMaster University, the Computer Coordination Group has undertaken a project to investigate the feasibility of setting up a cooperative computer-programme library for the Ontario universities. So far the group has developed a comprehensive classification scheme and has surveyed the content of programme libraries in the Ontario universities. Benefits expected from this work include savings to universities through exchanging existing programmes, the cooperative purchase of software, and reduction of manpower requirements for software development as a result of these joint efforts.

Recent technological developments now make it feasible to envisage a computer-communications complex with computers serving users distributed over a wide area. The Computer Coordination Group has established a Task Force on Data Communications, which has been asked to develop standards and proposals to meet future needs of the universities (bearing in mind the need to compensate for geographical remoteness) and to identify services and products which would facilitate inter-university cooperation.

With respect to long-term development of cooperative computing, the Computer Coordination Group is currently exploring prospects for development of specialized services at several existing computing centres and making these services available, through telecommunications, to users at other universities. Implementation of such a system of computer services would establish a pattern radically different from earlier proposals for setting up a regional centre as a single integrated facility. The notion of developing a computer network expresses in tangible form both the independence and the interdependence of the universities. Existing computing resources in the system would be used to offset any uneven supply of services, and specialized services would be developed at individual universities and made available to a much wider community of users than otherwise possible.

HELPING THE APPLICANT

Prior to 1966, each university in Ontario had distinct application forms, different procedures, and its own set of dates for receipt of applications and release of admission decisions. Under this system, an applicant who wished to be sure of obtaining a place in his desired programme of study would apply

separately to several universities, with the result that there was considerable duplication of effort and sometimes frustration for the applicant, the high school, and the universities. It was therefore apparent that some mechanism of coordination was desirable for the benefit of all parties, but particularly to help the applicant.

Since 1966, a coordinated programme has evolved through the agency of the Ontario Universities' Council on Admissions (OUCA). Through OUCA, the universities have collaborated with the Ontario Department of Education, the Ontario Secondary School Headmasters' Council, and the Ontario University Registrars' Association. The system of cooperation, as it presently operates, has several features.

The first feature of the system is a common application form, which contains information provided by both the applicant and the high school. OUCA has developed a form which is used by all full-time Grade 13 applicants to all full-time programmes of all Ontario universities. This form enables the student to specify three universities and/or programmes of his choice. (Applicants can make more than three choices by submitting an additional application.) The form provides the universities with a standard biography and academic record of the applicant and informs each university of the applicant's order of university preference.

Second, OUCA has obtained agreement on the part of the Ontario Secondary School Headmasters' Council, the Ontario Department of Education and the universities regarding deadlines for submission of applications for early consideration, issuing of offers of admission, and requirement of acceptance by the student of the offers made. The system of agreed dates has gone far towards assisting the applicant by affording him the opportunity to consider several offers simultaneously; at the same time, the system has served to prevent abuses.

A third feature of the coordinated admissions system is an exchange of notification among the universities when acceptances are received from students, enabling the universities chosen as alternates by the applicant to determine his status and avoid unnecessarily holding places open.

The fourth feature of the OUCA system is directed towards applicants who experience difficulty finding places in their desired areas of study. Each university's admission office weekly receives information on vacancies in various programmes at other universities, and this information is made available to applicants, to enable those who have not been accepted by the institution or for the programme first selected, or who have changed their choice of programme, to obtain accurate and up-to-date information concerning options for other universities and programmes.

The arrangements described have gone a long way towards coordination of admissions practices in the province, and have provided mechanisms which

operate efficiently, at low cost, and with a minimum of bureaucracy. In an attempt to determine what improvements might be sought, the Council on Admissions, at the request of the Committee of Presidents, is currently engaged in a major review of its coordinated admission practices. OUCA has been asked to review present admission practices and to make specific recommendations as to how coordination can and should be improved. In particular, it is recognized that there is a need for research to establish the actual degree of success of students in obtaining places in programmes of their choice in the Ontario universities, in order to evaluate critically the effectiveness of current admission procedures in serving the central objective of helping the applicant.

TEACHER EDUCATION IN TRANSITION

Progress towards integration of teachers' colleges into Ontario universities has not been made as rapidly as was earlier anticipated. Following the joint announcement in March 1969 by the Minister of Education and the Chairman of the Committee of Presidents that agreement had been reached on guidelines for the integration of teachers' colleges into universities, negotiations were undertaken between the Department of Education and a number of individual universities for the integration of local teachers' colleges. Three univerisities, Lakehead, Ottawa, and Windsor, have now concluded agreements with the Department, the first two having enrolled students in the new facility during 1969-70. Other universities are currently involved in negotiations with the Department. Having given its endorsation to the principle of the MacLeod Report[3] that eventually every Ontario teacher should hold a university degree and have received the best possible professional training, the Committee of Presidents wishes to see the process of integration of teacher-education facilities into universities completed without undue delay or hindrance.

Both CPUO and the government bodies concerned in the process of integration of teachers' colleges into universities are aware of the need to plan developments so as to meet the Province's future needs for teachers. The Joint CPUO/Department of Education Liaison Committee was established earlier this year to review changes in policy, curriculum and admissions as they affect the schools and universities. Projections made by the Department of Education of the Province's requirements for the next five years of both elementary and secondary school teachers were recently made available through this Committee to the universities to assist them in planning facilities needed for teacher

[3]*Report of the Minister's Committee on the Training of Elementary School Teachers* (Toronto: Ontario Department of Education, 1966).

education. The projections indicate that there will be some decline in the number of new teachers needed each year to 1975-76; at the elementary level, the decline will be sharper.

As an initial step to implement the recommendations of the Macleod Report, a policy was announced earlier this year by the Department of Education to require candidates for elementary-school training programmes in September 1971 to have successfully completed at least one year at a university. The impact of this regulation on freshman enrolments in the fall of 1970 is difficult to assess at this time. The importance of being able as accurately as possible to predict likely levels of enrolment for purposes of calculating operating grants is pointed out in a subsequent chapter; it is clear that policy decisions taken by various groups outside the university community can significantly, and often unwittingly, affect the planning activities of the universities.

An important aspect of planning the development of teacher education is the establishment of appropriate patterns for the financing of university programmes in education. The guidelines on the integration of teachers' colleges into universities contained provisions to cover arrangements for a transitional period. Until the universities have had some experience operating a teacher-education facility, all capital and operating funds are being provided by the Government through the Department of University Affairs on a budget-review basis. The Joint CPUO/CUA Subcommittee on Finance has under way a study on financing university programmes in education which aims at the introduction of formula financing for teacher education for the academic year 1971-72. The task of the Joint Subcommittee will be to recommend financial arrangements which will encourage progress in the development of teacher education in Ontario, aiming at the same time at assuring economies of scale and the avoidance of undesirable duplication of either programmes or facilities. In addition to examining projections of the number of teachers needed for the future in Ontario, which will serve as an indicator of the facilities that will be required for teacher education, the Joint Subcommittee will have to give consideration to a number of other relevant issues, among them the choice of teacher-education programmes to be offered in the universities; the method of financing practice teaching; the extent of funding required for graduate work in education, as well as for part-time and summer-school teacher-education programmes; and the adequacy of existing facilities and the need for new facilities in the universities.

At its meeting in May, the Committee of Presidents considered a report of its Special Subcommittee to Review Agreements Respecting Colleges of Education, which had been set up in April 1969 under the Chairmanship of Rev. N. J. Ruth of the University of Windsor. The main work assigned to the Subcommittee was to review existing agreements between the Department of Education and the colleges of education of Queen's University, the University of Toronto and the

University of Western Ontario, and make recommendations designed to bring these earlier agreements into conformity with principles contained in the guidelines for the integration of teachers' colleges announced in March 1969. In its report, the Subcommittee outlined areas considered to be in need of revision in the existing agreements; these recommendations have been forwarded to the universities concerned for their consideration when seeking amendment.

The Special Subcommittee was also asked to review existing Department of Education publications dealing with teacher certification in Ontario. The report acknowledged the responsibility of the Minister of Education to specify general requirements for teacher certification and recommended that these be published in a circular containing requirements for all certificates issued by the Department of Education, but also recommended that specific subject requirements, as well as titles for certificates, should be determined by the colleges or faculties of education, after consultation with the Minister of Education. To review these matters periodically, the Special Subcommittee recommended establishment of a standing joint committee of members named by the Committee of Presidents and by the Minister. These recommendations have been forwarded to the Department of Education.

STUDENT HOUSING: *QUO VADIS?*

A report of the CPUO Subcommittee on Student Housing, entitled "Student Housing in Ontario: Quo Vadis?", was presented at the September 1970 meeting of the Committee of Presidents. In its report, the Subcommittee traced briefly the history of residence finance, building and operation in Ontario during the 1960s, a period in which vastly increased student enrolments created a corresponding increase in the quantity of residence facilities required. During this period of rapid growth, the Government of Ontario established the Ontario Student Housing Corporation (OSHC) to build or acquire student residences, leasing these back to the universities for a term of fifty years.

After examining projections of university enrolment, the Subcommittee concluded that, if the provincially assisted universities accept the numbers of students projected, the amount of student housing available on campus must be increased greatly, beginning immediately and continuing for a number of years. When the Subcommittee sought from the universities detailed information on their plans for future student accommodation, it found that this kind of information was in many cases not yet available. A study of the universities' inventories of existing residences revealed the distressing picture that existing on-campus housing facilities were in most cases insufficient to meet even current need, that

most housing being built in areas adjacent to universities did not provide adequate accommodation for students, and that increasing demand for housing in the non-university community created a strong force competing with the even-faster-growing need for additional student-housing facilities. In view of the negative influence of inadequate housing on the learning process and the positive benefits from suitable environmental surroundings, the Subcommittee has called for support of a policy to ensure satisfactory accommodation for all students. An attempt by the Subcommittee to indicate the magnitude of the financial commitment required to meet housing needs generated by rising levels of enrolment yielded annual estimates ranging from just under $20 million for 1972 to over $40 million by 1980. Although these estimates were prepared by the Subcommittee in the absence of sufficient specific planning data from the universities, they do serve as an overall indication of the order of the financial commitment needed.

In the course of its work during the past year, the Subcommittee examined numerous possible kinds of residence organization and building and in its report pointed out the desirability of having on each university campus as great a variety of residence types as possible. From its consideration of various methods of contracting and construction the Subcommittee assessed the relative merits of four distinct approaches, including the arrangement most commonly practised in the past of having the institution's architect design and prepare working plans for a residence facility before receiving construction tenders. A second approach currently in use, the so-called "proposal-call" system of the Ontario Student Housing Corporation, has brought about decreases in the cost per unit for residence construction but has the disadvantage that contractors submit numerous proposal-calls for every one that may finally be accepted. A third approach, known as construction management, has been commended by the Subcommittee as worthy of consideration for residence construction; this approach involves close collaboration of the university, the architect and the contractor at all stages from the outset to completion of construction. A fourth approach, systems building, was also examined by the Subcommittee and found worthy of further exploration.

In its work to develop space/cost standards for residences, the Subcommittee urged that in order to provide flexibility and encourage variety in residence construction, no rigid space standard be forced on individual universities. The Subcommittee believes it important to establish a cost guideline to take into account such factors as an amount typical students could afford to pay, current costs of residence construction, as well as the need for careful planning of capital spending in a period of high interest rates. The Subcommittee recommended as a basic principle that residences should be self-liquidating and pointed out that space/cost standards for residences would in the final analysis

be determined by students through the level of fees and types of facilities which would be acceptable to them.

Under present arrangements, Central Mortgage and Housing Corporation through OSHC provides the funds universities borrow for residence construction; student users of residence facilities are required to meet all capital costs and operating expenses. The Subcommittee accepted the validity of the concept of requiring users to pay full residence costs but recommended a system which would provide, on the basis of demonstrated need, adequate direct financial assistance to students, in the form of grants, to cover food and lodging expenses.

The Subcommittee recommended that all the universities take steps to define their own long-range objectives and short-range priorities in respect of student housing, and that they declare support for off-campus housing services as a means to relieve short-term problems and to complement existing on-campus facilities. Some institutions have already taken such steps.

The importance of immediate government action to find solutions to meet critical present and future needs for student housing was pointed out by the Subcommittee, and the Committee of Presidents will urge that appropriate steps are taken at both the federal and provincial levels. CPUO will request a greater allocation of funds for student housing in 1971 and subsequent years, not by diverting funds from public housing, but through increasing the total level of government funding for all types of housing.

STUDENT FINANCING

Both the Ontario Student Awards Program (OSAP), intended primarily to provide financial aid to undergraduates, and the Ontario Graduate Fellowship Program, designed to assist persons with an interest in a university teaching career, have now been in existence for several years. It is generally acknowledged that these programmes have operated well, but concepts of student support are changing and the Ontario Committee on Student Awards (which advises the Minister of University Affairs) last year launched a comprehensive review of all student grant, loan and fellowship programmes in the Province.

At its meeting in October 1969, the Committee of Presidents decided to respond to the initiative of the Minister's Committee. The Ontario Council on Graduate Studies was asked to undertake a full study of the Ontario Graduate Fellowship Program, to determine whether any changes should be made in its objectives, method of operation, scale or relation to other programmes. At the same time, the CPUO Subcommittee on Student Aid was asked to undertake an equally searching review of the Ontario Student Awards Program.

Government officials at both the federal and provincial levels, as well as other individuals, have increasingly voiced concern at the rates of growth in government spending for higher education; suggestions have been made that it might become necessary to curtail the growth of public expenditure on higher education by requiring an increase in the contribution of individual students to their own education. The argument underlying these proposals for shifting a larger share of financing from taxpayers to students is that the private benefits from higher education have not hitherto been sufficiently acknowledged, the emphasis having been placed instead on the benefit to society. Various proposals have been put forward recently for raising student fees to cover a greater portion of educational costs to recognize more adequately the extent to which individuals benefit from a university education. To provide students with the necessary resources, a programme would be introduced to enable students to borrow any needed funds and to repay the loan from a portion of their earnings over an extended period.

The CPUO Subcommittee on Student Aid has undertaken as part of its examination of undergraduate student-aid programmes a study of income-related student loan programmes, particularly the Report entitled "Student Financial Assistance Programs,"[4] prepared for the Ontario Committee on Student Awards by Drs. G. F. C. Cook and D. A. A. Stager. The approach suggested in this Report would shift a greater portion of the costs of education to the student in the form of long-term loans, with repayment conditional on the level of future earnings over a selected repayment period (perhaps from 15 to 30 years) and handled through a surcharge on income tax to cover principal plus interest. In cases where earnings were insufficient to cover the debt over the repayment period, the remainder would be forgiven.

To stimulate widespread discussion of various issues concerning student aid within the university community, the CPUO Subcommittee asked each university to set up a study group, comprising professors, student-aid administrators and students, to examine OSAP, to consider the Cook-Stager Report and similar loan-based schemes, and to suggest areas for further investigation. Early in its work, the Subcommittee requested and was authorized by CPUO to increase its own membership to include student representatives of small, intermediate and large universities in the Ontario system to ensure expression of a student point of view in the study.

While it considers the Cook-Stager approach worthy of serious study, the CPUO Subcommittee has suggested several other important avenues for investigation. The Subcommittee believes that any programme of student aid should make provision for the recognition of academic achievement. The Subcommittee

[4]Cook, Gail C. A., and Stager, David A. A., "Student Financial Assistance Programs: A Report to the Ontario Committee on Student Awards" (Toronto: Institute For the Quantitative Analysis of Social and Economic Policy, 1969).

has also suggested that implications of two studies on accessibility to higher education, one just published by the Association of Universities and Colleges of Canada[5] and another expected shortly from the Ontario Institute for Studies in Education, should be examined before the introduction of any major reform in the Province's student-aid programmes.

The reasons for attaching significance and urgency to the current discussions of student aid and the costs of higher education are important and many, but equally compelling and numerous are the reasons for full and careful consideration before any major steps are taken to change existing patterns. The Subcommittee on Student Aid is expected to submit its final report to CPUO later this fall. The Ontario universities will then be prepared to make known to government their views concerning the development of appropriate patterns of undergraduate student assistance.

Concern has been voiced in the university community recently about a reduction in the level of government funding for 1970-71 of the Ontario Graduate Fellowship Program. Some universities found their quotas for OGF awards reduced by almost one quarter. Members of the university community generally agree that the OGF programme has made an important contribution to healthy expansion of graduate studies in Ontario. There are some who now believe the programme has served its purpose well and should be changed; various suggestions have been made to make highly competitive awards of greater value, to merge graduate support with the Ontario Student Awards Program, or to have government provide funds direct to universities to enable them to administer their own graduate awards programmes. Several new fields of graduate study are added each year to the list of eligible disciplines under the OGF programme, and with total funds made available for the programme remaining constant or, as in the case for 1970-71, actually decreasing, there can be little doubt that changes in the programme are being forced. However, there is a widely held view that students in the humanities and social sciences, for whom the OGF programme was intended to provide assistance, will continue in need of special support, whatever changes are proposed. Added to this is growing evidence of a trend among students at the undergraduate level away from enrolment in sciences and professional programmes and towards the humanities and social sciences.

From the work being done by the Ontario Council on Graduate Studies in its review of the OGF programme, concurrent with the study on student financial assistance at the undergraduate level by the Subcommittee on Student Aid, the universities will be able to present to government recommendations concerning student financial assistance which will embrace needs for both the undergraduate and graduate areas.

[5]Pike, Robert, *Who Doesn't Get To University — And Why* (Ottawa: Association of Universities and Colleges of Canada, 1970).

6.

EVOLUTION OF THE FORMULA APPROACH TO FINANCE

OPERATING FORMULA UNDER REVIEW

The year 1969-70 was the third in which Ontario universities received grants for operating purposes based on a "weighted-student" formula. A university's enrolment is weighted according to a scale which runs from one to six and the resulting figure is multiplied by a unit value; the formula grant awarded is this product less a deduction for income from fees. Certain universities receive supplementary grants in addition — for emergence, major new programmes, bilingualism, and other special purposes. In 1969-70 special grants for the development of computing facilities were merged with formula grants; in future no special grants are planned for computing.

In the first year of formula financing the value of the income unit was $1,320; the following year it was $1,450, and in 1969-70 it was first set at $1,530 and later adjusted to $1,556 by redistribution of the special computer grants. In percentage terms, annual increases have been 9.8% and 5.5% respectively.

One of the major research activities of the Committee of Presidents is the tracking of trends in operating expenditures of the universities. In each year, financial reporting forms are analyzed to ascertain changes in the pattern of distribution of expenditure; external indicators and other data are sought to establish trends in costs of salaries and purchased goods and services; and an attempt is made to assess the impact of financing trends on the effectiveness of university operations.

In October and December 1969 the Committee of Presidents met with the Committee on University Affairs to discuss, among other matters, operating grants requirements of the universities for 1970-71. Extensive analyses of data were presented in written briefs on both occasions. One main point made in these presentations was that the level of funding for 1969-70 had placed the universities in a marked budgetary squeeze. In order to provide for needed staff salary increases without allowing a deterioration in staff-student ratios, universities had found it necessary to reduce the percentage of their budgets allocated to non-salary items below desirable funding levels, and there were clear indications that supportive services had suffered.

6. Evolution of the Formula Approach to Finance

Changes in the relationship between formula grants, fees income, and special grants, often mask the real trends in funding. Thus, in 1969-70 a 5.5% increase in the value of the income unit, when combined with special grants, resulted in a 2.8% increase in total grants per weighted student, and a 2.4% increase in total income per weighted student. Such increases are clearly insufficient to cover inflationary cost increases.

The December 1969 brief to the Committee on University Affairs had estimated unit cost increases for the universities in 1970-71 at approximately 9.1%, but in March 1970, the Minister of University Affairs announced a unit value for 1970-71 of $1,650, an increase of about 6.0% over 1969-70. At the same time, the Minister announced that "in 1971-72 it is expected that the value will be $1,730," which would result in an increase of about 4.8% over 1970-71. While remaining concerned over the academic impact of the announced levels of grants, the universities were pleased to have been given for the first time a two-year indication of the level of financial support. In the past, it has been difficult for universities to budget adequately with little advance notice of government grants, and it is hoped that this latest practice will be maintained on a rolling basis so that universities will continue to have an indication of likely support for at least a year in advance. This practice will enable more careful budgetary planning, particularly with respect to faculty hiring, which must be begun nearly a year prior to the start of any academic session.

The problems of the newer "emerging" institutions remained a subject of concern during the year. A special meeting between representatives of emerging institutions and the Committee on University Affairs was held in November 1969 to discuss extra-formula financial needs of these institutions. Prior to the meeting, representatives of the institutions involved had met and agreed to propose a development model based on the size of the institutions' enrolments, rather than a time scale, with emerged status at about 4,500 basic income units. Much of the discussion during the meeting with CUA representatives centred on the question whether institutions with small enrolments could exist on formula income alone under present weighting arrangements, and this question was referred for consideration by the Joint Subcommittee on Finance. Another question raised was whether the same financing arrangements were appropriate for all emerging institutions; the idea favoured was to have a system to provide a common basis of support with sufficient flexibility to accommodate individual differences.

The announcement by the Minister of University Affairs on university support for 1970-71 confirmed that the case for the emergent universities had been heard. The level of supplementary grants announced for Trent, Brock, Lakehead, and Laurentian universities showed that there was an attempt to approxi-

mate the proposed pattern for emergence, and there was evidence that the rigid time-related pattern of emergence proposed by government two years ago had been abandoned. For Scarborough and Erindale colleges, which are also emerging, the University of Toronto's new programme arts and science weight (slightly higher than formula weight one) will apply. The two colleges have a close relationship academically and administratively with the St. George Campus of the University of Toronto. The pattern for their emergence calls for phasing into the formula at about 3,000 units; there is concern about the adequacy of this pattern, particularly if for some reason the relationship to the University changes in future years.

Despite apparent progress, there is still apprehension on the part of the emerging institutions over the possible adverse effects of an abrupt change from supplementary support to ordinary formula support. Under the latest proposed pattern for emergence, it is possible that at emergence a university could actually receive less income than in the previous year when supplementary support was allowed, despite an increase in enrolment. However, the sympathetic hearing at the November meeting with the Committee on University Affairs, the patterns of support subsequently announced, and the decision to refer the question of supplementary operating support to the Joint Subcommittee on Finance, give reason to hope there will be an early resolution of phasing-into-formula problems affecting the emerging institutions.

Because academic salaries are the largest single item in a university's budget, and a crucial one for ensuring academic quality, this area has come under careful study during the past year. A joint ad-hoc committee of CPUO and the Ontario Confederation of University Faculty Associations undertook extensive analyses of university salaries and salaries in other comparable occupations and held a number of meetings to consider various matters of principle which could form a basis for university salary policy. While it was not possible to reach mutual agreement on the level of anticipated salary increase to be included in CPUO's December brief on operating expenditures, the joint committee made considerable progress in identifying factors which were taken into account in the presentation to the Committee on University Affairs. Identified as major factors were compensation for increased cost of living, share in increased national wealth, career progress, and possible adjustment of salary levels to ensure comparability with similar occupations. In deriving the estimate of salary increments for its brief to CUA, the Committee of Presidents decided to attach values to the first three factors and add a small additional percentage to provide for selective adjustments to remove inequities in salary patterns. The Committee believed there was at that time insufficient evidence to warrant including a general adjustment of salary levels in comparison to other groups. However, CPUO recognized that more extensive analyses of this last factor were required

for future salary policy, and to this end, a special study has been initiated with the tripartite sponsorship of CPUO, OCUFA and CUA.

Another aspect of the operating grants scheme which received attention during the year came to be referred to as "formula stabilization." Much time has been given by both the CPUO Subcommittee on Operating Grants and the Joint CPUO/CUA Subcommittee on Finance to discussion of various proposals to mitigate the effects of enrolments which varied from estimates. In each of the three years of formula operation, total enrolments in the province have exceeded by several percentage points levels forecast by individual universities, and the effect has been to create problems for government's budgetary process. While it was recognized that enrolment forecasting is at best an uncertain process, it was considered necessary by the Committee on University Affairs to seek to mitigate the financial repercussions of variations between estimated and actual enrolments. It was understood at the outset, though, that any satisfactory solution would have to respect the Government's "open-door" policy of providing university places for all qualified students.

In June 1970 the Committee of Presidents approved a proposal by the Joint Subcommittee on Finance for a modification to the operating grants formula to account for these problems, which in essence will be a combination of a contingency fund with deferred payments when necessary. With respect to development of projections of university enrolment, the Joint Subcommittee will have initial responsibility for determining and recommending to CPUO and CUA projected weighted enrolment for the Ontario university system by January each year, and this projection will be accorded the status of an official forecast. In a year in which actual enrolments exceed this official projection, universities will be paid in full for actual enrolments up to 101% of the projected levels, and any remaining liability will be met the following year.

The original document proposing an operating grants formula stated that the formula would be applied on a test basis for a period of three years, and that provision would have to be made for review of the formula on a continuing basis. The formula has been far from static during its existence and committees concerned with its review have been kept extremely busy. Unforeseen difficulties in administration or interpretation have arisen frequently, new programmes have been developed which had to be fitted into formula weighting categories, and pressures have developed for adjusting the weights of existing programmes. The weights for students in medicine, dentistry, and veterinary medicine have been modified; new procedures have been introduced for counting graduate students; and new methods have been developed for calculating formula equivalences for part-time students.

Another aspect of the operating formula which has been the subject of much analysis and discussion during 1969-70 is the weighting for undergraduate

students in arts and science programmes. At the time the formula was introduced there were clear distinctions between students in arts and those in science and between students in general and honours programmes. Since then certain universities have eliminated these distinctions, creating a need to develop appropriate new formula arrangements. Many possible solutions have been examined, but so far none has proved satisfactory.

The weights assigned under the formula have been under continuous pressure during its existence. Understandably enough, representatives of various discipline groups, who best know their own financial problems, frequently argue that existing formula weightings for their programmes are inadequate. Universities which have programmes substantially different from others often argue for revision of the formula. However, it is recognized that it is important to preserve the integrity of the formula, and the universities generally agree that it should be looked at as a whole when considering any proposed adjustments. The Joint Subcommittee on Finance is currently designing a survey of the universities to obtain views on an appropriate set of relative formula weights for various programmes. In addition to this general study, two other areas are receiving special attention.

The first of these is weighting for part-time students. Universities have been invited by the Joint Subcommittee to make submissions on financial aspects of part-time credit education. Another study, to which reference has been made in preceding pages, is under way to establish weights for teacher education.

A further concern in relation to operating grants has been the adequacy of existing financial statistics. The Committee of Presidents itself, the Department of University Affairs, the Committee on University Affairs, and members of the Provincial Legislature have all raised this subject during the year. At issue have been lack of comparability among institutions, inadequate definitions, and categorizations which do not provide sufficient scope for analytical purposes. As a start towards seeking a solution to the problem of developing meaningful financial statistics, the Committee of Presidents called a meeting of senior financial officers of the universities in March of 1970, at which staff of the Research Division described in general the types of comparable financial data considered necessary to undertake adequate and meaningful analyses. There was ready recognition by the finance officers of the need to improve financial statistics, and it was agreed to set up a task force to consider the information needs of CPUO and to attempt to work out a set of improved common definitions for financial reporting. Those present also considered it desirable to establish communication on a continuing basis among themselves and with CPUO and other bodies concerned with financial reporting; thus, the task force was additionally charged with recommending appropriate arrangements for the establishment of a formal

association of senior university finance officers and considering possible affiliation with CPUO.

This task force convened a series of working meetings throughout the spring of 1970 and reported at a plenary session in June. With respect to financial reporting, the task force suggested both short-term and long-term approaches to development of comparable financial information. To meet the immediate data needs of CPUO, in connection with the annual analyses of operating costs, a revised set of reporting forms was proposed. It was recognized, however, that a number of inadequacies remained which ought to be the subject of a more protracted study, and a thorough review of principles for university accounting was proposed as a longer-term objective.

A constitution for a new association, the Committee of Finance Officers — Universities of Ontario, was accepted at the June meeting. Mr. L. G. Macpherson, Vice-Principal (Finance) of Queen's University, who had chaired the task force, was elected Chairman of the Committee. As its first duty, the association's Executive was charged with seeking the best means of implementing the task-force proposals. At the September 1970 meeting of CPUO, an application for affiliation by the Committee of Finance Officers was approved.

OBJECTIFYING NEEDS FOR SPACE

Following adoption of a formula for operating grants, the need for more satisfactory arrangements for capital financing prompted the search for a capital formula. To guide the work towards development of a capital formula, the Joint CPUO/CUA Capital Studies Committee was set up in June 1967. Consultants were engaged for several studies, including the Ontario Universities' Physical Resources Survey on physical plant and space utilization. Subsequent delays in the work of developing a capital formula prompted the introduction by the Committee on University Affairs of an interim formula, used for the first time in 1969-70 as the basis for distributing available capital resources to the universities.

The interim capital formula is based on a standard space allowance of 130 net assignable square feet per eligible full-time student and a cost standard of $55 per square foot. As with the operating grants formula, the interim capital formula is based on weighted enrolment, although the weighting categories differ and the spread of weights is narrower (one to four, as opposed to one to six under the operating formula). A submission was made to the Committee on University Affairs in January 1970 to argue the need for a space standard of 140 square feet, derived from comparisons between Ontario universities and those in other jurisdictions. The Chairman of the Committee on University

Affairs responded indicating the readiness of CUA to consider recommendations by the Joint Capital Studies Committee for alternative patterns in a final capital formula, based on realistic and credible standards.

It was not possible to complete the work to develop a final capital formula for the allocation of capital resources to universities for 1970-71, and capital grants for the next two years were announced in March 1970 on the basis of a revised interim formula, which takes into account factors not previously allowed, such as emergence, trimester and part-time enrolment, and obsolescence of physical plant. Following this announcement, the CPUO Subcommittee on Capital Financing reiterated concern at retention of the space standard of 130 square feet per full-time student, and the standard dollar allowance of $55 per net-assignable square foot, calculated to be about 10% below average university building costs of 1968. A number of other comments were made by the Subcommittee, many of which related to issues which have been under study by the Joint Capital Studies Committee. This Committee currently has under consideration the adequacy of allowances for part-time and trimester enrolments, for emergent institutions which have space needs exceeding their current enrolments, and for renewing or replacing old and obsolete space. Another important issue being discussed is the need for lead financing to cover planning and initial construction costs for approved new building projects. In addition, the Committee has been considering a device to take account of regional differences in costs of construction.

CPUO's view is that any methodology for the distribution of capital funds should first recognize the total capital requirements of the Ontario university system and then provide for the equitable disbursement of the capital available to meet these needs. The main criticism of the revised interim formula was that it appeared to serve as a device for allocating available resources from government rather than being based on the actual needs of the universities. In reply to this criticism, the Chairman of the Committee on University Affairs gave an assurance that figures used in the revised formula had been developed prior to consideration of the total capital funds available for universities.

Reference has been made to the value of a central CPUO research capacity. Two instances of conflicting estimates of capital and space which came into public view in the past year served to illustrate how capacity for research can pay dividends. On separate occasions, articles appeared in the daily press alleging substantial surpluses of space in Ontario universities. In each case, the Research Division of the Secretariat was able to reply through analyses which showed the allegations to be in error.

In an effort to find ways to reduce capital costs, a four-member task group representing the Committee of Presidents, the Committee on University Affairs and the Architectural Services Branch of the Department of University Affairs

was set up in the fall of 1969 to explore potential applications of the systems-building approach in universities. Attention has focused primarily on the approach developed in the Study of Educational Facilities (SEF) which had been inaugurated in Toronto under the auspices of the Metropolitan Toronto School Board, the Ontario Department of Education, and the Ford Foundation's Educational Facilities Laboratory of New York. Working with the Director of SEF, a study has been done to determine the types of university construction for which the systems-building approach could be applied and to examine the experiences of other university jurisdictions using this approach. The results of this work, which have just been reported, will require both the universities and the sponsoring government bodies to assess critically the appropriateness of the systems-building approach in the university setting and whether the need exists to develop financing arrangements to encourage adoption of systems-building procedures.

7.

SOME CURRENT ISSUES: PROFESSORS AND GRADUATE STUDENTS

DEBATE ON CANADIAN CONTENT: ACADEMIC STAFF

During the past year, the debate over alleged "de-Canadianization" of the universities continued to occupy public attention through letters to newspaper editors, editorials, magazine articles, television and legislative debates. Some active participants in the controversy have argued that the issue is no less than the very survival of the universities as Canadian institutions. The main focus of the debate has been the numbers of non-Canadians, particularly Americans, teaching in Canadian universities.

The issue of "de-Canadianization" of the universities would undoubtedly never have arisen had there been a sufficient supply of Canadian-educated university teachers to meet the demands of rapidly increasing enrolments. It is not a simple issue, but a complex one involving not only the appropriateness of nationalistic criteria in the university community, but also fluctuations in supply of and demand for highly qualified manpower and the stage of development of Canadian graduate schools. This chapter examines the citizenship of faculty and graduate students in the provincially assisted universities of Ontario against a background of high demand for university teachers and low availability of "home-grown" supply, with rapidly increasing graduate enrolments to improve the imbalance between demand and supply for the future.

As the Committee of Presidents followed the debate on the citizenship of faculty members, it seemed desirable to give collective attention to appropriate faculty hiring policies for Ontario universities. Thus, the Committee developed and made public in September 1969 a policy statement on this subject. It was stated that, in general, the universities of Ontario believe that scholarship is universal and that nationality and place of birth are, in themselves, irrelevant. The Committee rejected any proposal for the imposition of quotas for non-Canadian faculty, or for giving absolute preference to Canadian citizens.

But to this general policy statement a rider was attached: that qualified Canadians who wish to pursue an academic career in Ontario should have the fullest opportunity to be considered for any suitable vacancies that may occur. To ensure this, it was recommended to member universities that all vacancies be

advertised in a medium circulating widely among present and prospective university teachers. The most appropriate medium was considered to be *University Affairs*, the monthly publication of the Association of Universities and Colleges of Canada. It was also noted that universities might wish to use other media as their circumstances would require.

A good deal of the public controversy centred on what the facts were. For this reason, the Committee instructed its Research Division to undertake a survey of the citizenship of professors in Ontario universities. The survey was conducted in collaboration with the Dominion Bureau of Statistics and the results were released in the spring of 1970. The survey showed that of just over 8,000 full-time faculty members in Ontario universities in 1969-70, 61% were Canadian citizens, 15% American, 12% British, 4% from other Commonwealth countries, 2% French, and 6% from other countries. A breakdown by discipline groupings showed that the percentage of Canadians ranged from 47% to 81% in various discipline areas; in faculty administration 84% were Canadian. Table 1 gives detailed results.

TABLE 1

Citizenship of Faculty Members in Ontario Universities by Discipline Area

Discipline Area*	Citizenship					
	Can. %	U.S. %	U.K. %	Cmnwlth. %	France %	Other %
Faculty Administration†	84	8	7	1	—	—
Humanities — Pure	47	24	12	3	5	9
— Applied	58	25	9	3	1	4
Social Science — Pure	53	25	11	4	1	6
— Applied	81	9	5	2	1	2
Biol. Science — Pure	64	11	14	6	—	5
— Applied	79	5	9	3	—	4
Physical Sc. — Pure	60	8	18	7	—	6
— Applied	66	6	13	6	0	9
Total	61	15	12	4	2	6

*Disciplines grouped according to categories of Dominion Bureau of Statistics.
†Excludes University of Toronto.

The composition of academic staff largely results from forces of supply and demand over recent years. The Ontario system has added over 5,000 professors in five years to meet enormous increases in enrolment. In the same period of time, just over 2,000 PhDs graduated from Ontario universities, to serve the demands of industry and government, as well as the universities. It is clear that immigration has played an important role in providing adequate staffing for Ontario universities during a period of rapid expansion.

It is the belief of the Committee of Presidents that the results of the citizenship survey should do much to alleviate fears. In view of the rapid growth of the Ontario university system during the past few years, the statistics revealed should not be surprising. With adequate attention given to appropriate hiring practices which will ensure opportunities for all qualified Canadians, the recent expansion of graduate studies in Canadian universities will ensure a larger flow of Canadians into university positions over the forthcoming years.

DEBATE ON CANADIAN CONTENT: GRADUATE STUDENTS

Increasing concern has been expressed on the part of government about the size and constituency of the Ontario graduate school population. A letter from the Minister of University Affairs to each university in March 1970 reiterated a statement a year earlier:

> . . . the Committee [on University Affairs] feels that the projected growth of graduate enrolment by many of the Provincially Assisted Universities continues to be unrealistically high. I would stress, therefore, that this matter should continue to be given careful study particularly in regard to the proportion of non-Canadian students who will be enrolled . . . . I believe that a certain caution should be exercised against over-expansion of graduate work based on a high proportion of non-Canadian students so as to avoid distress if constraints of any sort become necessary.

Related concerns were the subject of considerable discussion in the Ontario Legislature several months later, with particular emphasis on the availability of jobs for PhD graduates in 1970.

When the subject was first raised during the 1968-69 academic year, it was agreed that more information was needed on the current situation, and thus, the Ontario Council on Graduate Studies undertook to survey the citizenship composition of Ontario graduate schools. The survey results served to alleviate much of the alarm that had arisen in the absence of adequate information. Since it was clear that this subject would be a matter of continuing concern, a decision was taken to gather similar statistics annually, and also to undertake additional studies which would reveal the post-graduation destinations of graduate students.

Results of the 1969-70 survey of the citizenship of graduate students in Ontario were released at the April 1970 meeting of the Committee of Presidents. Since data were then available from two years, it was possible to observe changes from 1968-69 to 1969-70. Students were classified as Canadian, landed immigrant, or foreign, and the latter two categories were broken out by country of origin.

7. Current Issues: Professors and Graduate Students

Total graduate enrolment in 1969-70 increased by approximately 2,500 students, or 17%, to 17,500 students, of whom 12,100 (69%) were full-time; the numbers of full-time students increased by 14%, while part-time students increased by 25%. The foreign-student component declined in 1969-70 from 20% to 14%, while landed immigrants increased from 13% to 17%, and Canadians increased from 66% to 69%. Together, Canadians and landed immigrants accounted for 86% of the total graduate-student population in 1969-70. The largest groups of foreign students in both years were Asian (6% in 1969-70) and American (3% in 1969-70).

Table 2 shows summary statistics for master's and doctoral students. There is a notably higher percentage of Canadians among master's students, and a higher percentage of landed immigrants among doctoral students. The consistent pattern in the statistics suggests that there is a time dimension in the comparison: as master's students move into doctoral work, the Canadian percentage of doctoral students is likely to increase still further.

TABLE 2

Citizenship of Graduate Students in Ontario Universities, 1968-69 and 1969-70

	Master's		Doctoral		Total	
Year Ending	69 %	70 %	69 %	70 %	69 %	70 %
Canadian	72	75	54	56	66	69
Landed Immigrant	10	13	20	26	13	17
U. S .A.	3	2	7	5	4	3
U. K.	3	2	2	1	3	2
Europe	1	1	2	1	1	1
Asia	7	5	11	7	8	5
Africa	1	1	1	1	1	1
Other	2	1	2	2	2	1
Total	100	100	100	100	100	100

It is of particular interest to see where non-Canadian graduate students originate. Table 3 shows country of origin of landed immigrants as well as foreign students. The largest group of landed immigrants in 1969-70 (27%) comes from the United Kingdom, followed by Asia with 24% and the U.S.A. with 22%. The largest group of foreign students presently comes from Asia (40%); the U.S.A. is next with 23% and then the United Kingdom with 12%. In absolute terms (not shown in Table 3), all groups of landed immigrants showed substantial increases, while all groups of foreign students revealed decreases.

Table 4 presents a citizenship distribution of Ontario graduate students by discipline. Business and Education show the highest Canadian content in 1969-

70 (89% and 85% respectively) and Engineering and Physical and Mathematical Sciences the lowest (48% and 55% respectively). With the exception of Education and Business, where the Canadian percentage is already high, all of the discipline groups show a marked increase in the proportion of landed immigrants in 1969-70.

TABLE 3

Country of origin of non-Canadian graduate students in Ontario, 1968-69 and 1969-70

	Landed Immigrant		Foreign		Total	
Year Ending	69 %	70 %	69 %	70 %	69 %	70 %
Asia	21	24	41	40	33	31
U. S. A.	21	22	22	23	21	22
U. K.	32	27	14	12	21	20
Europe	13	14	7	9	9	12
Africa	3	3	6	7	5	5
Other	10	9	11	10	10	9
Total	100	100	100	100	100	100

TABLE 4

Citizenship Distribution of Ontario Graduate Students by Discipline, 1968-69 and 1969-70

	Canadian		Landed Immigrant		Subtotal		Foreign		Total	
Year Ending	69 %	70 %	69 %	70 %	69 %	70 %	69 %	70 %	69 %	70 %
Humanities	69	69	15	19	84	88	16	12	100	100
Social Sciences	68	71	13	17	81	88	18	12	100	100
Physical and Mathematical Sciences	53	55	16	22	69	77	31	23	100	100
Engineering	49	48	19	26	68	74	32	26	100	100
Life and Health Sciences	54	61	17	22	71	83	30	17	100	100
Education	83	85	8	8	91	93	9	7	100	100
Business	88	88	4	4	92	92	8	8	100	100
Other	70	76	14	18	84	94	16	6	100	100
Total	66	69	13	17	79	86	20	14	100	100

In view of the inability of Canadian universities to meet the demand over the last several years for qualified Canadian graduates, particularly for university teaching posts, the overall proportion of foreign students (14%) is entirely

justifiable. A fair proportion will proceed to landed-immigrant status and thence to Canadian citizenship status. Apart from this, Ontario universities, as members of the international community of universities, have obligations to provide opportunities for higher education to foreign students, particularly, but not solely, to those from less-developed countries. Acceptance of foreign students from the United States and United Kingdom could also be viewed as a redress of the situation prior to the recent expansion of graduate schools when large numbers of Canadian students were educated in these countries. Even now there are about 5,000 Canadian students pursuing graduate degrees in the United States.[1]

Another study recently completed by the Ontario Council of Graduate Studies shows where graduate students have settled and worked upon completion of their courses of study. The survey of Ontario PhD graduates from 1964 to 1969 showed an increase in Canadian citizenship after graduation over citizenship before graduation (63% over 60%) and an increase in landed-immigrant status (17% over 15%).

The survey showed that 80% of Canadian citizen PhDs were employed in Canada in the fall of 1969. A substantial proportion of the remainder are scientists on post-doctoral fellowships who will return; thus, the percentage of Canadian citizen PhDs ultimately settling in Canada is projected to be very high. The small percentage remaining as "export" must surely be regarded as an important Canadian contribution to the international exhange which is so necessary to scholarship and culture. Significantly, 57% of the landed-immigrant PhD students have chosen Canadian employment (only about ¼ less than Canadian citizens); this figure may be increased upon the return to Canada of some students on post-doctoral fellowships.

With respect to Canadian employment in Social Sciences and the Humanities (the disciplines of continuing public attention), the survey showed 53% and 60% respectively in Ontario employment, with 22% and 14% respectively employed in the rest of Canada. Thus, 75% of Ontario PhDs in Social Sciences and 74% in Humanities have found employment in Canada.

One fear often expressed is that Canada is an education stopover point where students from other countries are trained to work in the United States. In examining this issue more broadly one might ask how Canada fares in the exchange of faculty (recent PhD graduates) with the United States. The survey of faculty citizenship in late 1969 showed over 1,200 U.S. citizens employed as faculty by Ontario universities. Most have a PhD, and many have been employed within the last five years (a conservative figure would be 800). In contrast, the total number of Canadian citizens, landed immigrants, and visa

[1]Estimated from unpublished data of Department of Manpower and Immigration

holders among 1964-69 Ontario PhD recipients who are now in the United States is about 250.

These few statistics should serve to allay some concerns about the responsiveness of the universities to public needs. However, it would be dereliction of duty not to emphasize again the universities' broader commitment to the international community of scholars. Statistics cannot describe the benefits to the foreign scholar and to his country when he returns from a university in Canada to put his knowledge to work. The benefits to Canada from every foreign scholar settling here after a Canadian education are obvious. In this time of global problems of pollution control, population control, control of technology, etc., which require international cooperation, confining Canadian graduate education narrowly to Canadian students would be nationalistic isolationism of the worst sort. Much more is owed to future scholars than to deny them the opportunity and the right to join with scholars from other developed countries in attacking these massive problems.

THE DEVELOPMENT OF GRADUATE EDUCATION IN ONTARIO: RETROSPECT AND PROSPECT

With the aid of its Research Division and the Ontario Council on Graduate Studies, the Committee of Presidents has devoted much time and attention to ascertaining the facts and considering the issues on development of graduate education, with particular concern for requirements for university teachers to meet expanding enrolments.

The time horizon chosen for much of the analysis is ten years; that is, five years retrospect and five years prospect. Full-time enrolment in undergraduate degree programmes in the provincially assisted universities of Ontario in 1964-65 was just under 37,000; by 1969-70 it had more than doubled to just under 85,000. The comparable figures for graduate enrolment are 5,500 in 1964-65 and 12,000 in 1969-70. The compound annual growth rate for graduate enrolment, 16.7%, was somewhat less than for undergraduate, 18.1%. These rates are in dramatic contrast with the rest of Canada,[2] for which compound annual growth rates were 26.6% for graduate and only 10.7% for undergraduate. Graduate enrolments in Ontario have more than doubled over the five-year period but in the rest of Canada they have more than trebled. On the other hand, undergraduate enrolments in the other provinces have risen much more slowly than in Ontario.

[2]Statistics for the rest of Canada include Ontario enrolments in other than provincially assisted institutions.

7. Current Issues: Professors and Graduate Students

To look at the same data in another way, in 1964-65 Ontario contained 25% of Canada's undergraduate student population and 50% of the graduate student population. In 1969-70 Ontario had 32% of the undergraduates and 40% of the graduates. Ontario's share in the undergraduate segment of Canada's higher education effort has increased markedly over five years, while its share in the graduate sector has decreased significantly. For comparison, in 1969-70 Ontario contained about 35½% of Canada's population and about 34% of the 18-24 age group; both percentages rose about 1½ points from 1964-65.

The plans of Ontario universities over the next five years have been examined from a summary of the submissions to the Committee on University Affairs in the fall of 1969. (Revised projections to be made after this printing may alter the picture somewhat.) For 1974-75, the individual university projections sum to 117,000 undergraduate degree students[3] and 20,000 graduate students. The compound annual growth rates to reach these figures would be 6.6% for undergraduates and 10.8% for graduates, compared with 18.1% and 16.7% per annum respectively for the preceding five-year period. The plans of the Ontario universities, then, are for a substantial reduction in rates of expansion for the next quinquennium, at both the undergraduate and graduate levels. Planned reductions are greater at the undergraduate than graduate levels.

Comparisons have been made of the rates of growth anticipated by the universities with projections undertaken by the Ontario Institute for Studies in Education and the Economic Council of Canada.[4] In the case of undergraduate enrolments, both projections assume somewhat faster rates of growth (9-10% per annum) than planned by the universities. These projections, based on analysis of past trends, appear reasonable; unless the universities revise their targets upward, or additional places are provided in other ways, it is unlikely that demand for freshman places can be met.

In the case of graduate enrolment, five projections (four by OISE) are available for comparison with university plans. The five projections range from 10-14% per annum; four are higher than those of the universities; the

[3]Projections of undergraduate enrolment made by the universities included other than degree students; the total figure for 1974-75 was reduced by using a 1969-70 ratio of degree to total students of .949.

[4]These comparisons can only be approximate since each set of projections is based on somewhat different definitions; because of this comparisons were of average rates of growth rather than absolute numbers. *Sources:* Watson, C. and Quazi, S., *Ontario University and College Enrollment Projections to 1981-82 (1968 Projection)* (Toronto: Ontario Institute for Studies in Education, 1969); Zsigmond, Z . E. and Wenaas, C. J., *Enrolment in Educational Institutions by Province 1951-52 to 1980-81, Economic Council of Canada: Staff Study No. 25* (Ottawa: Queen's Printer, 1970).

fifth, regarded by OISE as "very conservative," is almost identical with the rate anticipated by the universities.

The great surge of university enrolment in the latter half of the 1960s was a deliberate response on the part of the universities to a high-priority social need. A firm call to action was issued by the Economic Council of Canada in its First Annual Review of December 1964:

> The supply of highly skilled and professional manpower will undoubtedly be a critical factor in the achievement of our economic goals in the years ahead . . . we are at present much less well equipped than the United States in this important area. . . . The gap was much wider at the postgraduate level: for example, Canadian universities (from 1956 to 1963) produced only one doctoral degree for every 33 granted in the United States. It is at the postgraduate level that the situation is most critical. . . . The present number of advanced degrees being awarded in Canada is far too small to provide sufficient qualified teachers to meet the anticipated increase in university enrolments and the additional research workers to develop new knowledge and techniques required by business and government if Canada is to participate fully in the economic opportunities of the years ahead.[5]

These points were reiterated with an equal note of urgency in the Council's second review a year later. Near the end of 1969, the Economic Council assessed progress towards the objectives they had set five years earlier, in the following words:

> As we near the end of the 1960's, Canadian educators can look back with pride to a decade of accomplishment and progress under difficult conditions. It has been a decade of vigorous educational mobilization. *Some of the benefits are just beginning to be reaped by society. The main pay-off is yet come.*[6]

CPUO does not mean to suggest an attitude of complacency by these references to the accomplishments of recent years, but rather to draw a background for assessing the current situation and the outlook for the first half of the 1970s. In particular, it is useful to see the current public debate over employment opportunities for PhD graduates against this background. The Committee of Presidents believes that the rate of expansion of Ontario graduate schools is indeed worthy of careful attention in planning for the years ahead. Caution should be exercised, however, against over-reacting to what may be temporary perturbations in the relationship between supply and demand in the employment market.

Manpower forecasting, particularly with respect to highly qualified manpower, remains an art which poses the greatest difficulties. This is to some degree inevitable since manpower needs of society are subject to new develop-

[5]Economic Council of Canada, *First Annual Review: Economic Goals for Canada to 1970* (Ottawa: Queen's Printer, 1964), pp. 163-165.

[6]Economic Council of Canada, *Sixth Annual Review: Perspective 1975* (Ottawa: Queen's Printer 1969), p. 124.

ments, changing orders of social priority, and the vicissitudes of the economy. These factors, combined with the substantial lead time necessary to adjust to changing conditions preclude precise matchings of supply with demand at any given time; cyclic effects are unavoidable. A principle of modern management control theory is to let the system show definite evidence of deviation from the plan before adjustment. Overreaction to a temporary condition in the allocation of professional manpower, in a system with supply and demand characteristics of long lead times and overlapping cycles, may exacerbate the situation rather than improve it. With this perspective in mind, it is useful to view current short-run problems against a longer time horizon.

The CPUO Research Division has examined PhD supply and demand relationships in gross terms over a five-year historical period and has projected these relationships six years into the future. These analyses have concentrated on the availability of PhDs for academic posts, which represent the majority of employment opportunities. In the past five years, slightly more than 2,000 PhDs graduated from Ontario universities (to serve the demands of industry and government as well as the universities) while over 5,000 new teaching positions became available in the same universities. Over this period, Ontario has come nowhere near to meeting its own faculty requirements and has had to rely heavily on immigration to provide adequate university staffing.

A few simple statistics will put this statement into proper perspective. Enrolment in all Canadian universities in the social sciences has increased dramatically in the past several years. At the same time, there has been widespread pressure for substantial upgrading of such disciplines as Asian Studies, Fine Arts, Drama, Library Science and Physical Education. Significantly, *no* PhDs were awarded in any of these last five disciplines during the entire five-year span 1964-69. During this same period only eight were awarded in Social Work, six and ten respectively in Anthropology and Sociology, and 36 and 41 in Economics and Political Science.

Looking ahead, calculations based upon enrolment projections of the Ontario universities, assuming that student/staff ratios will increase marginally, if at all, the indications are that nearly 1,100 additional full-time academic staff will be needed each year from 1970-71 to 1975-76.[7] Alternative enrolment projections made by the Ontario Institute for Studies in Education would produce slightly higher requirements: between 1,100 and 1,300 per year.

Supply estimates of persons available for university teaching positions were then developed on the assumption that, if available, the PhD would be the minimum qualification. Estimates of PhD graduates were adjusted for the percentage likely to be available for the academic market to produce estimates of

[7]The analysis excludes requirements in faculties of education; demand is conservatively biased thereby.

supply. A historical percentage of 65% was derived from the Ontario Council on Graduate Studies' survey of the destinations of graduates over the years 1964-69. Application of this ratio yields annual supply figures rising from about 500 in 1970-71 to about 950 in 1975-76.

It might be argued that the 65% ratio of PhD employment in the universities is low when projected into the future. It may be that other sources of employment will be increasingly unable to utilize the historical percentage of output as the supply of PhD holders increases. Thus, an alternative projection of university teaching supply was performed using an 80% ratio of employment in the universities. Application of the 80% ratio causes the supply figures to rise from 600 in 1970-71 to 1150 in 1975-76.

CPUO believes the Ontario universities ought to aim for self-sufficiency with respect to their own staffing requirements. This is not to say that there should be no interchange in graduate education or in academic staffing between Ontario and other parts of Canada, or other countries, but is rather to argue that Ontario as Canada's richest province ought, at a minimum, to ensure that it need not be a net beneficiary of the output of educational institutions in other jurisdictions. Whichever estimate above is utilized, it is clear that Ontario universities are unlikely to be self-sufficient in meeting their own staffing needs for at least the next five years.

In the aggregate, the graduate schools of Ontario do not appear to have unreasonably high projections of graduate enrolments over the next five years. The analysis is admittedly in gross terms and does not necessarily apply to individual disciplines. Potential oversupplies and undersupplies in certain disciplines do bear careful study; so does the substitutability of academic preparation for positions other than originally intended, including new types of positions created by advancing technology. It is expected that the discipline assessment procedures currently under development will play a major part in providing guidance to universities in this respect. The creation of compatible data for provincial analysis will aid immeasurably in the analysis of supply and demand by discipline. CPUO believes that the area of manpower projection needs to be better developed at government levels, particularly at the national level. CPUO staff have been active over the past year in encouraging various federal government agencies to devote more resources to this important area of investigation.

So far this chapter has concentrated on society's manpower needs as a criterion for examining the development of graduate education in Ontario. But more fundamental questions must be addressed. To what extent in a pluralistic society should manpower requirements be a prime determinant of educational enrolments at any level? If one could produce a perfect manpower forecast, should this be utilized to place a rigid set of constraints on graduate enrolments?

Does the "open door" policy espoused by the Ontario Government apply only at the undergraduate level? To date, the educational system has operated largely in response to social demand.

While these questions bear on overall enrolment levels, they have more particular relevance at the individual discipline level. It is well known that the University Grants Committee in Great Britain several years ago urged the universities to increase the number of places in science programmes, but the students to fill these places have not been forthcoming. There are clearly periodic shifts in student preferences, some perhaps fluctuations of fashion, but others likely representing definite trends in society's order of priorities. To what extent ought the universities shift to attempt to meet these demands, even though the outlook for jobs directly related to field of study may be uncertain?

It is also useful to be reminded that field of work often bears little apparent relationship to field of university study. The 1967 survey of professional and scientific manpower undertaken by the Department of Manpower and Immigration revealed substantial shifts between education and employment.[8] For instance, only 58% of those trained in physical science were at the time of survey working in physical science. One suspects that some of the difficulties experienced by new PhDs in obtaining employment are caused by overly narrow definitions of the field of work for which they believe they are suited.

Many of the points which ought to be taken into consideration in examining plans for development of graduate education can be summarized with two quotations. The first is from a paper presented by Professor John Porter to the National Seminar on the Costs of Post-Secondary Education. The paper was entitled "Post-Industrialism, Post-Nationalism, and Post-Secondary Education," and included the following comments:

> For some time there has been a fear of over-producing highly qualified manpower and a consequent unemployment of professional workers and waste of educational resources. Until very recently these fears were unwarranted. During the last year, however it appears that many Ph.D students both in Canada and the United States are facing difficulties in getting jobs which they consider suitable for their qualifications. In part their difficulties arise from present economic restraints which have led to cutbacks in appropriations for research activity. The present tight job market for Ph.D's trained to do research might, therefore, be temporary and does nothing to lessen the argument that the trend of post-industrialism is the absorption of more and more highly qualified workers. For societies experiencing rapid technological change there never will be a tidy fit or a realization of a theoretical maximizing of the use of trained manpower. If the observation that ". . . the disequilibrium between the supply of and the demand for human resources cannot

[8]Pankhurst, K. V., "Scientific manpower in Canada" (Ottawa: Department of Manpower and Immigration, 1969).

be overcome in the short run,"* is correct, then we must expect such discrepancies as upsetting as that may be for some. . . .

*Bombach, G., "Manpower forecasting and educational policy," *Sociology of Education*, Fall, 1965, vol. 38, no. 5, p. 344.

We also assume that there is a low level of substitutability of highly qualified manpower. Perhaps this assumption is not correct. Perhaps highly qualified people can adapt their training to a variety of jobs. At least the possibilities have not been fully explored, that with a minimum of retraining the stock of highly qualified workers can be made more adjustable to changing occupational needs. It is almost impossible to forecast occupation by occupation, labour force requirements with any degree of accuracy, but we do know there is a persistent growth in the category of professional occupations. For this reason we might consider that we have a problem of over-specialization rather than over-production. In that case, our educational planning is at fault because we place too great an emphasis on specific discipline content rather than on content common to all disciplines. This condition exists at both undergraduate and graduate levels, although it is slowly being corrected at the undergraduate level where the output of highly trained honours students is no longer the primary objective. At the graduate level, however, there is still a high degree of specialization and professionalization. It is difficult for Canadian universities to innovate and reduce this element of specialization in their graduate programmes because many of them are young and their faculty take as their models the more prestigeful departments in the mainline universities in the United States since such orientation is thought to be necessary to be recognized. . . . The post-industrial society is one of accelerated rates of change. Therefore, those who leave our universities should have skills which are flexible and adaptable in a rapidly changing world.

We should consider also that our lack of planning is now having some undesirable consequences. Perhaps we are producing too many chemists and not enough city planners or whatever it is that we need. It is doubtful that we have really over-produced to any extent in the scientific and engineering fields but if we have, these mistakes if such they are in the long run, should not lead us to conclude that we have over-invested in the educational field in the light of our overall needs, or that we can slacken our efforts to build across Canada a system of higher education that will be appropriate to our needs over the next ten years or so.

The second quotation is from the remarks of the Minister of University Affairs to the Legislature on the occasion of the introduction of the Estimates of the Department on June 10, 1970:

Indeed, many of you will be aware that reports have been made that Canadian students who have attained PhDs are having some difficulty in finding suitable employment opportunities.

From 1964 to 1969 there is clear evidence that PhDs from Ontario universities had no difficulty in finding suitable positions. Nevertheless, the downturn in the national economy, for reasons that need not be debated at this time, has led to a curtailment in much of the research and development that is carried out in Canadian industry and, without question, has reduced the opportunities for employment in that sector.

> These changes have come relatively quickly and affect students who entered the graduate school at a time when, as indicated, PhDs have literally had their pick of a wide range of opportunities. Thus, the need to adjust to a sharply different job market understandably has not been very easy. Nevertheless, there is every indication that it is an exaggeration to say that opportunities do not exist. It is equally fallacious, I believe, to suggest that because people do not move into particular types of occupations in which they may have had their minds and hearts set, they are necessarily underemployed.
>
> Hopefully, with an improvement in economy and a conscious effort to motivate Canadian industry to see the value of employment of people with this degree of training, this situation will reverse itself. At the same time, the universities may wish to re-examine their programmes to ensure that PhD study is not too closely aligned to academic pursuits but is truly relevant to the broader needs of society. Certainly, we must be extremely cautious about ideas of sharply curtailing enrolment within university graduate schools on premise that a surplus of such students already exists. Given the length of time it takes to prepare people at this level, such short-sighted reaction could easily leave us in a position, three or four years hence, in which we have great demands for highly educated personnel and no supply to meet them.

Analysis of the supply and demand of trained manpower as a "market" situation suggests an additional aspect for consideration: the extent to which this market may be self-regulating over the long term. It is important that the best possible estimates be made of likely employment opportunities in future years, and that these estimates be widely disseminated to those considering entrance into various fields. CPUO believes that, if efforts are directed to this approach, the awareness of prospective students will serve in large part to prevent excessive supply and demand imbalances. The discussion of this matter in the Science Council/Canada Council special study *The Role of the Federal Government in Support of Research in Canadian Universities* may be useful in focusing the discussion:

> The country as a whole and the provinces must be concerned about manpower requirements. This concern can be expressed in the first instance through careful survey and forecasting of manpower needs on a continuing basis. Such forecasts should be given wide circulation. It is reasonable to expect that universities will respond by creating additional opportunities for study in the areas of shortage. In addition, the universities through their counselling services have a duty to advise students about the opportunities in various fields from the standpoint not only of intellectual challenge but also of vocational prospects and social utility. The reaction of prospective students to such forecasts is likely to provide an effective control. We believe the market-place, if its trends are made explicit, offers an adequate governor to prevent serious surfeit and to encourage movement of students toward fields of opportunity.[9]

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[9]Macdonald, J. B. *et al, The Role of the Federal Government in Support of Research in Canadian Universities: Special Study No. 7* (Ottawa: Queen's Printer, 1969) p. 117.

Such an approach in CPUO's view represents sound public policy for a democratic society. Sufficient control is provided over the long term to protect the public interest without the danger of overreacting seriously to short-term fluctuations in this "market." Freedom of choice for individuals and universities will tend to protect both the individual and society.

It has been argued that the forecasting of manpower demands remains a most difficult undertaking, and that there are inherent cyclic phenomena which require exercise of caution against overreacting to what might be short-term perturbations in the employment market. CPUO's own rough estimate of the needs of the universities for teaching personnel suggests that, given the plans of the universities for expansion of graduate enrolments, there is unlikely to be an oversupply of university teachers in the aggregate until at least 1975-76. Present university plans call for a substantial slackening of the rate of expansion of graduate enrolments in the next five years. It has also been argued that some consideration must be given to social demand, which in any case is likely to be self-regulating vis à vis employment opportunities over the long term. In view of all of these factors, CPUO does not believe university enrolment projections in total to be unreasonably high.

At the same time, the Committee believes careful attention ought to be paid to rates of development of various disciplines in relation to both social demand and manpower needs, the latter with particular reference to requirements for university teachers. CPUO therefore proposed recently to the Committee on University Affairs the following actions:

1) That the Committee of Presidents begin projections of the supply and demand for university teachers by discipline areas;
2) That the Ontario Council on Graduate Studies prepare a coordinated forecast for the development of graduate education in Ontario by discipline areas;
3) That the Committee of Presidents and the Provincial Government urge upon the Federal Government the need to prepare projections of high-level manpower by areas of specialization on a regular schedule;
4) That individual universities devote their best efforts to counselling applicants to graduate programmes in the light of the best information available on future job prospects but that students and universities be left free to make their own choices with this awareness.

APPENDIX A

MEMBERS OF THE COMMITTEE OF PRESIDENTS
OF UNIVERSITIES OF ONTARIO
OBSERVERS, AND PRINCIPAL OFFICERS OF THE SECRETARIAT
at October 1, 1970

MEMBERS

Brock University	— Dr. James A. Gibson, President
	Dr. E. A. Cherniak, Department of Chemistry
Carleton University	— Dr. A. Davidson Dunton, President*
	Dr. G. Ross Love, Department of Physics and Director of Planning
University of Guelph	— Dr. W. C. Winegard, President
	Dr. E. P. Benson, Department of English Language and Literature
Lakehead University	— Dr. W. G. Tamblyn, President*
	Dr. John Whitfield, Department of Mathematics
Laurentian University of Sudbury	— Dr. R. J. A. Cloutier, Acting President
	Colleague member to be elected
McMaster University	— Dr. H. G. Thode, President (Vice-Chairman)*
	Dr. R. C. McIvor, Department of Economics
Université d'Ottawa	— T.R.P. Roger Guindon, Recteur
	Dr. Paul Hagen, Dean of Graduate Studies
Queen's University at Kingston	— Dr. John J. Deutsch, Principal*
	Dr. Dugal Campbell, Department of Psychology
University of Toronto	— Dr. Claude T. Bissell, President*
	Dr. R. A. Greene, Department of English, University College
Trent University	— Professor T. H. B. Symons, President
	Dr. W. F. W. Neville, Department of Politics
University of Waterloo	— Dr. Burton C. Matthews, President
	Dr. W. F. Forbes, Faculty of Mathematics
University of Western Ontario	Dr. D. C. Williams, President (Chairman)*
	Dr. C. M. Carmichael, Department of Geophysics
University of Windsor	— Dr. J. F. Leddy, President*
	Dr. R. J. Doyle, Department of Biology
York University	— Dr. David W. Slater, President
	Dr. Michael Creal, Division of Humanities

OBSERVERS

Royal Lutheran College	—Brigadier-General W. K. Lye, Commandant
Waterloo Lutheran University	— Dr. F. C. Peters, President

PRINCIPAL OFFICERS OF THE SECRETARIAT

Dr. John B. Macdonald, Executive Director*
B. L. Hansen, B.A., Director of Research
G. Grant Clarke, M. A., Secretary and Research Associate
Paul L. Haefling, B.A., Assistant Secretary

*Members of the Executive Committee

APPENDIX B

CONSTITUTION OF THE COMMITTEE OF PRESIDENTS OF UNIVERSITIES OF ONTARIO/COMITE DES PRESIDENTS D'UNIVERSITE DE L'ONTARIO

(The Committee was formed on December 3, 1962, but was without a formal constitution until December 9, 1966. The constitution was amended on January 18, 1968; April 26, 1968; and March 13, 1970.)

1. *Name*
   (1) The name of this body shall be: "Committee of Presidents of Universities of Ontario/Comité des Présidents d'Université de l'Ontario."
2. *Objects*
   (1) The objects of the Committee are to promote cooperation among the provincially assisted universities of Ontario, and between them and the Government of the Province, and, generally, to work for the improvement of higher education for the people of Ontario.
3. *Membership*
   (1) Those eligible for membership are (a) the executive heads of provincially assisted universities in Ontario which grant university degrees (a power conferred by a legislative or parliamentary act or charter in which such authority is specifically stated) but excluding institutions whose power to grant degrees is limited to a single professional field; and (b) one colleague, elected to membership by the senior academic body of each such institution.
   (2) Colleagues elected to membership by the senior academic body of those institutions defined in article 3, section (1), part (a), shall hold office for a term of one year, renewable.
   (3) At the time of the coming into force of this amendment on March 13, 1970, members shall be the executive heads and elected colleagues of the universities as defined in article 3, section (1), part (a) and listed in Annex A attached.
   (4) Members from other institutions which become eligible to provide members may be admitted if recommended by the Executive and approved by a two-thirds majority of the members present and voting at a meeting of the Committee of Presidents.
4. *Officers*
   (1) The Committee shall have a Chairman, elected from and by its members for a term of two years. He shall serve without remuneration.
   (2) The Committee shall have a Vice-Chairman, elected from and by its members for a term of two years. He shall act for the Chairman in the absence of the latter. He, too, shall serve without remuneration.
   (3) The Committee shall have as its senior paid officer an Executive Vice-Chairman, appointed by the Executive with the concurrence of not less than two-thirds of the members of the Committee of Presidents. Included in his functions shall be those of secretary and treasurer of the Committee.
   (4) The Committee may have other paid officers, and sub-staff, as deemed necessary by the Executive.
5. *Subcommittees*
   (1) There shall be a subcommittee called "the Executive" composed of six members: The Chairman of the Committee of Presidents (who shall preside), the Vice-Chairman, the Executive Vice-Chairman (who shall have no vote), and three others elected from and by the members of the Committee of Presidents — one from the larger universities, one from those of intermediate size, and one from the smaller universities. Its function is to guide the Committee of Presidents and, on occasion, to act for it between meetings of the Committee.

(2) There shall be a "Subcommittee on Nominations," named by the Chairman with the approval of the Executive. It shall propose candidates for the elective offices and for membership of the Executive. It may also, from time to time, assist in the selection of members of other subcommittees, and shall review subcommittee membership and terms of reference as provided for by subsection (5) below.

(3) There may be such other subcommittees (standing and special) as are deemed necessary.

(4) Members of standing subcommittees shall serve for terms of not more than two years. They may be re-appointed. Members of a special subcommittee normally will serve for the duration of the subcommittee.

(5) At least once every two years, normally after the election of officers and the naming of a new Executive, the Subcommittee on Nominations shall review the terms of reference and membership of subcommittees of the Committee of Presidents and suggest to the Executive such changes as may seem desirable.

6. *Affiliates*

(1) Other organizations or associations of personnel serving in the universities of Ontario may be affiliated to the Committee of Presidents.

(2) Such bodies may be established by the Committee of Presidents or may come into being on the initiative of others.

(3) Normally an affiliate would have some executive power delegated to it, explicitly or implicitly, by the Committee of Presidents.

(4) Affiliates shall be responsible to the Committee of Presidents with respect to those of their interests and functions which fall within the scope of the activities of that Committee.

7. *Meetings*

(1) The Committee of Presidents shall meet at least twice a year.

(2) Meetings of the Committee and of the Executive may be called by the Chairman, the Vice-Chairman, the Executive Vice-Chairman, or any three other members of the Committee.

(3) A member who is the executive head of an institution and is unable to attend a meeting of the Committee may be represented at the meeting by an alternate of his choosing. A member who is an elected colleague who is unable to attend a meeting of the Committee may be represented by an alternate selected by the senior academic body of the institution he represents. Alternates shall have the power to vote at the meeting.

(4) Subcommittees will meet as required.

(5) A majority of the members of the Committee of Presidents or of a subcommittee shall constitute a quorum for a meeting of the Committee or subcommittee concerned.

8. *Finance*

(1) The fiscal year of the Committee of Presidents shall end June 30.

(2) The chief source of financial support of the Committee shall be subscriptions paid by the universities whose executive heads are members of the Committee.

(3) The scale of membership subscriptions shall be set by action of the Committee.

(4) The Committee may receive additional financial support from other sources.

(5) The accounts of the Committee shall be audited by a firm of auditors appointed by authority of the Committee for terms of one year, renewable.

9. *Amendment*

(1) This constitution may be amended by a two-thirds majority of members of the Committee present and voting at a meeting in the notice of which the proposed

amendment is specified and at which at least two-thirds of the members are present.

10. *Dissolution*

(1) The Committee of Presidents may be dissolved by a two-thirds majority of members of the Committee present and voting at a meeting in the notice of which the motion for dissolution is specified and at which at least two-thirds of the members are present.

(2) In the event of dissolution of the Committee of Presidents, all assets and property of the Committee shall, after payment of its just debts and obligations, be distributed to one or more charitable organizations in Canada, as may be determined by the Committee.

ANNEX A

Provincially assisted universities of Ontario whose executive heads were members of the Committee of Presidents of Universities of Ontario at December 9, 1966:

Brock University
Carleton University
University of Guelph
Lakehead University
Laurentian University of Sudbury
McMaster University
Université d'Ottawa
Queen's University at Kingston
University of Toronto
Trent University
University of Waterloo
University of Western Ontario
University of Windsor
York University

APPENDIX C

SUBCOMMITTEES AND AFFILIATES OF THE COMMITTEE OF PRESIDENTS OF UNIVERSITIES OF ONTARIO

at October 1, 1970

1. *Executive Committee*

Task: To guide the Committee of Presidents and on occasion to act for it between meetings of the Committee.

Membership: Six members: the Chairman of the Committee of Presidents (who shall preside), the Vice-Chairman, the Executive Director (who shall have no vote), and three others elected from and by the members of the Committee of Presidents, one from the larger universities, one from those of intermediate size and one from the smaller universities.

Chairman: Dr. D. C. Williams, President, University of Western Ontario.

2. *Subcommittee on Nominations*

Task: To propose candidates for elective offices and for membership of subcommittees.

Membership: Members shall be named by the Chairman of CPUO.

Chairman: Dr. A. Davidson Dunton.

3. *Subcommittee on Research and Planning*

Task: To suggest to the Committee of Presidents research and planning projects which should be undertaken for the development and improvement of higher education in Ontario; at the request of the Committee of Presidents to delineate research and planning prospects of this sort and suggest procedures and personnel for carrying them out; to review and comment on the results of such projects for the guidance of the Committee of Presidents.

Membership: Ten or a dozen persons representing university administration and a variety of academic disciplines — persons with experience of social research and an interest in the Subcommittee's task.

Chairman: Professor John A. Porter, Department of Sociology and Anthropology, Carleton University.

4. *Subcommittee on Operating Grants*

Task: To study matters pertaining to the Provincial Government operating grants system and to make recommendations on these matters to the Committee of Presidents; to maintain liaison with the relevant subcommittee of the Committee on University Affairs; to undertake such other related tasks as may be assigned to it by the Committee of Presidents.

Membership: Seven members including at least one from a large university, one from a university of intermediate size, and one from a small university.

Chairman: Mr. J. H. Sword, Executive Vice-President (Academic) and Provost, University of Toronto.

5. *Subcommittee on Capital Financing*

Task: To study the problems presented by the planning, construction and financing of university buildings, and to make recommendations on these matters to the Committee of Presidents; to maintain liaison with the organization of campus planners and physical plant administrators of Ontario universities; to maintain liaison with appropriate officials of the Department of University Affairs.

Membership: About half-a-dozen persons representing large and small universities and the administrative functions of campus planning and campus financing.

Chairman: Professor G. Ross Love, Department of Physics and Director of Planning, Carleton University.

6. *Subcommittee on Student Aid*

Task: To study the problems relating to the provision and administration of financial aid to university students in Ontario, and to make recommendations on these matters to the Committee of Presidents; to maintain liaison with appropriate officials of the Department of University Affairs.

Membership: About seven or eight persons — some experienced in the formation of policy for, and some in the administration of, university student aid programmes.

Chairman: Dr. Peter Morand, Assistant Vice-Rector (Academic), University of Ottawa.

7. *Subcommittee on Information*

Task: To suggest to the Committee of Presidents ways in which the nature, the roles, the problems and the actions of the universities can be interpreted to the public; to advise the Committee on relations with the press and other media of communication; and, as requested by the Committee of Presidents from time to time, to arrange for news releases.

Membership: Seven or eight persons, including a preponderance of university information or public relations officers, but also representatives of general university administration and of persons oriented primarily towards the philosophy and politics of higher education.

Chairman: Dr. D. C. Williams, President, University of Western Ontario.

8. *Subcommittee on Computer Services*

Task: To serve as the Technical Advisory Committee to CPUO to facilitate cooperative programmes and coordination in the field of computer services.

Membership: A representative of each of the Ontario universities with computer needs or installations, with power to add.

Chairman: Mr. George Lake, Director, Computing Centre, University of Western Ontario.

9. *Subcommittee on Student Housing*

Task: (a) Generally, to study problems in the provision and operation of student residences and make recommendations to the Committee of Presidents; (b) more particularly, to establish space/cost standards and area factors, and to determine to what extent the construction of student housing requires subsidization; (c) to give direction to the study and consideration of the various possible methods of contracting for residence design and construction which might prove to be economical and acceptable to the universities; (d) to maintain liaison with other appropriate subcommittees of the Committee of Presidents, notably the Subcommittee on Capital Financing, and with appropriate representatives of the Committee on University Affairs and the Ontario Student Housing Corporation; (e) to present an interim report on items (b) and (c) to the Committee of Presidents at the earliest possible time.

Membership: Six to eight persons representing a variety of interests in student housing, including at least one from a large university, one from a university of intermediate size, one from a small university, and one student member.

Chairman: Mr. W. W. Small, Vice-President (Administration), York University.

10. *Special Subcommittee on Assessment of Graduate and Research Library Requirements*

Task: (a) To establish a method of assessing the extent to which Ontario university libraries are adequate to support existing and proposed programmes of graduate study and research, including faculty research where there is no graduate programme; (b) to

establish a method of estimating all related costs; and (c) as methods are developed and approved, to proceed to their application.

Membership: Ten members: five university librarians and five academics (including graduate deans) representing the humanities, the social sciences and the natural sciences.

Chairman: Mr R. H. Blackburn, Chief Librarian, University of Toronto.

11. *Special Subcommittee to Review Agreements Respecting Colleges of Education*

Task: To review the existing agreements between the Minister of Education and the three universities with colleges of education, and to make recommendations to the Committee of Presidents for amendments to bring these agreements into conformity with the guidelines for the integration of teachers' colleges into universities.

Membership: The dean of a college of education, two deans of arts and science, and an academic.

Chairman: Reverend N. J. Ruth, University of Windsor.

12. *Ontario Universities' Council on Admissions* (affiliate)

Task: To deal with all admissions questions (both policy and procedures) of joint concern to the Ontario universities and specifically to make recommendations with respect to an Ontario Universities' Applications Centre.

Membership: At least one member from each university and not more than three from multi-faculty institutions, selection of the members to be the responsibility of the individual university.

Chairman: Dean M. H. M. MacKinnon, Wellington College, University of Guelph.

13. *Ontario Council on Graduate Studies* (affiliate)

Task: To promote the advancement of graduate education and research in the provincially assisted universities in Ontario; to consider matters referred to it by the Committee of Presidents; to advise the Committee of Presidents on the planning and development of an orderly pattern of graduate education and research, having regard, among other things, to the need to avoid unnecessary duplication of programmes and facilities.

Membership: The provincially assisted universities of Ontario each represented by the Dean of Graduate Studies or the Chairman of the Committee on Graduate Studies.

Chairman: Dean M. A. Preston, Faculty of Graduate Studies, McMaster University.

14. *Ontario Council of University Librarians* (affiliate)

Task: To oversee standards of general library service in the universities; to supervise the management of any such bibliographic centre and system of reader services as may result from the further recommendations of the Ontario Council on Graduate Studies and the Ontario Council of University Librarians; to cooperate with other agencies and councils as appropriate; to advise the Committee of Presidents on these matters.

Membership: The chief librarians of the provincially assisted universities with power to add associate members or consultants as occasion requires.

Chairman: Rev. Paul-Emile Filion, Chief Librarian, Laurentian University.

15. *Advisory Joint Council on Coordination of Ontario University Library Research Facilities* (affiliate)

Task: (a) To advise the Committee of Presidents of Universities of Ontario on matters of policy and budget relating to the coordination of university library research facilities; (b) to ensure the discharge of responsibilities assumed by institutions in accepting the allocation of special areas of research development, and of duties with respect to the bibliographic centre and special reader services; (c) to advise the Ontario Council of University Librarians on the operation of the bibliographic centre and special reader service; (d) to advise the Ontario Council on Graduate Studies on the operation of appraisal procedures as they affect libraries.

Membership: The membership of the Advisory Joint Council shall consist of all members of the Ontario Council on Graduate Studies and the Ontario Council of University Librarians.

Chairman: Rev. Paul-Emile Filion, Chief Librarian, Laurentian University.

16. *Ontario Universities' Television Council* (affiliate)

Task: On request, to advise and assist universities, and to make recommendations to universities or to the Province, or both, on the development and use of television teaching in Ontario universities.

Membership: Two representatives, at least one of whom is a member of the academic staff, from each provincially assisted university in Ontario.

Chairman: Dean W. J. McCallion, School of Adult Education, McMaster University.

17. *Ontario Council of Deans of Medicine* (affiliate)

Task: To provide an effective means of coordination of effort and a regular medium of communication between the faculties of medicine of universities of Ontario, having regard to the need to avoid unnecessary duplication or overlap of programmes between individual faculties and to provide special interuniversity projects which relate to medical education, research, and health services; to advise the Committee of Presidents of Universities of Ontario on matters which will influence medical education and research and to consider such matters as are referred to it by the Committee of Presidents; to serve as liaison between the faculties of medicine and government agencies concerned with health and hospital services, professional colleges and associations, and any other organizations the activities of which influence medical education and research.

Membership: Each Ontario university with a faculty of medicine represented by the Dean of Medicine, with power to add the vice-presidents of health science and other associate members as occasion requires.

Chairman: Dr. J. R. Evans, Vice-President, Health Sciences, and Dean of Medicine, McMaster University.

18. *Committee of Ontario Deans of Engineering* (affiliate)

Task: To provide a medium of communication among the engineering faculties of Ontario so that engineering education in the Province may evolve optimally; to advise the Committee of Presidents of Universities of Ontario on any appropriate aspect of education.

Membership: Deans of engineering of faculties conferring the baccalaureate degree at institutions of post-secondary education in Ontario whose presidents are members of the Committee of Presidents of Universities of Ontario.

Chairman: Dean R. M. Dillon, Faculty of Engineering Science, University of Western Ontario.

19. *Ontario Association of Departments of Extension and Summer Schools* (affiliate)

Task: To promote closer relations among individuals and institutions interested in credit and non-credit university extension and to work for the development and improvement of continuing education at the university level.

Membership: Deans, directors and associate or assistant deans or directors of extension of degree-granting universities whose presidents are members of the Committee of Presidents of Universities of Ontario.

Chairman: Mr. George Boyes, Director of University Extension, University of Toronto.

20. *Ontario University Registrars' Association* (affiliate)

Task: (a) To provide an effective means to coordinate effort and a medium of communication among members of the Association; (b) to concern itself with items of academic administration, including admissions, registration, examinations, scheduling,

transcripts, records, calendars, scholarships and awards, and secondary school liaison; (c) to encourage and conduct studies of matters related to (b); (d) to conduct seminars for the exchange of information and development of new procedures.

Membership: Administrative officers of Ontario universities responsible for the areas of (b) above.

President: Mr. G. L. Amyot, Registrar, University of Ottawa.

21. *Ontario Committee of Deans and Directors of Library Schools* (affiliate)

Task: (a) To provide a medium of communication among the library schools of Ontario; (b) to promote the development and foster the improvement of education for librarianship in Ontario; and (c) to advise the Committee of Presidents on any appropriate aspect of library education.

Membership: The Dean or Director and one senior faculty member from each library school of a university whose president is a member of the Committee of Presidents.

Chairman: Professor R. Brian Land, Director, School of Library Science, University of Toronto.

22. *Committee of Deans of Ontario Faculties of Law* (affiliate)

Task: (a) To provide an effective means of communication and cooperation among the faculties of law of the Ontario universities on matters of common concern; (b) to advise the Committee of Presidents of Universities of Ontario on matters of common concern in legal education and research, and to consider matters referred to it by the Committee; (c) to provide an effective means of cooperation among the faculties of law of Ontario universities for liaison with and advice to the Law Society of Upper Canada on matters of common concern in legal education and research.

Membership: The dean (or acting dean) of each faculty of law of the Ontario universities, and one other member of the teaching staff of each faculty.

Chairman: Dean Ronald St. John Macdonald, Faculty of Law, University of Toronto.

23. *Committee of Finance Officers — Universities of Ontario* (affiliate)

Task: (a) To provide a medium for communication and cooperation among financial and business officers of the provincially assisted universities of Ontario so as to promote discussion among members, initiate and study matters of mutual interest, and provide collective advice to members on all matters pertaining to university finance and business operations and planning; (b) to provide advice, and to consider, investigate and report when requested, on financial and other related matters to the Committee of Presidents of Universities of Ontario, its subcommittees and other appropriate organizations.

Membership: The membership of the Committee shall comprise one senior financial officer from, and appointed by, each of the provincially assisted universities.

Chairman: Mr. L. G. Macpherson, Vice-Principal (Finance), Queen's University.

24. *Council of Deans of Arts and Science of the Ontario Universities* (affiliate)

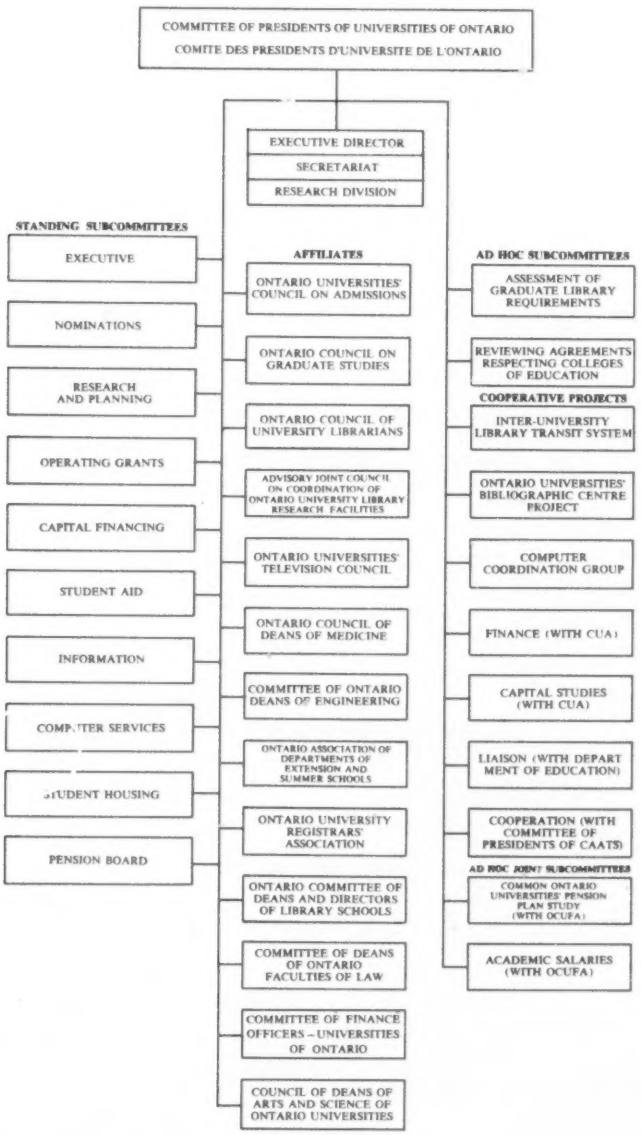
Task: The purpose of the Council is to promote the welfare of Ontario universities, particularly their faculties of Arts and Science, through study and discussion of matters of common interest.

Membership: The deans or equivalent officers of Ontario institutions having university status.

Chairman: Dean J. G. Rowe, Faculty of Arts, University of Western Ontario.

APPENDIX D

ORGANIZATION OF THE COMMITTEE OF PRESIDENTS OF UNIVERSITIES OF ONTARIO


COMMITTEE OF PRESIDENTS OF UNIVERSITIES OF ONTARIO
COMITE DES PRESIDENTS D'UNIVERSITE DE L'ONTARIO
EXECUTIVE DIRECTOR
SECRETARIAT
RESEARCH DIVISION
STANDING SUBCOMMITTEES
EXECUTIVE
NOMINATIONS
RESEARCH AND PLANNING
OPERATING GRANTS
CAPITAL FINANCING
STUDENT AID
INFORMATION
COMPUTER SERVICES
STUDENT HOUSING
PENSION BOARD
AFFILIATES
ONTARIO UNIVERSITIES' COUNCIL ON ADMISSIONS
ONTARIO COUNCIL ON GRADUATE STUDIES
ONTARIO COUNCIL OF UNIVERSITY LIBRARIANS
ADVISORY JOINT COUNCIL ON COORDINATION OF ONTARIO UNIVERSITY LIBRARY RESEARCH FACILITIES
ONTARIO UNIVERSITIES' TELEVISION COUNCIL
ONTARIO COUNCIL OF DEANS OF MEDICINE
COMMITTEE OF ONTARIO DEANS OF ENGINEERING
ONTARIO ASSOCIATION OF DEPARTMENTS OF EXTENSION AND SUMMER SCHOOLS
ONTARIO UNIVERSITY REGISTRARS' ASSOCIATION
ONTARIO COMMITTEE OF DEANS AND DIRECTORS OF LIBRARY SCHOOLS
COMMITTEE OF DEANS OF ONTARIO FACULTIES OF LAW
COMMITTEE OF FINANCE OFFICERS – UNIVERSITIES OF ONTARIO
COUNCIL OF DEANS OF ARTS AND SCIENCE OF ONTARIO UNIVERSITIES
AD HOC SUBCOMMITTEES
ASSESSMENT OF GRADUATE LIBRARY REQUIREMENTS
REVIEWING AGREEMENTS RESPECTING COLLEGES OF EDUCATION
COOPERATIVE PROJECTS
INTER-UNIVERSITY LIBRARY TRANSIT SYSTEM
ONTARIO UNIVERSITIES' BIBLIOGRAPHIC CENTRE PROJECT
COMPUTER COORDINATION GROUP
FINANCE (WITH CUA)
CAPITAL STUDIES (WITH CUA)
LIAISON (WITH DEPARTMENT OF EDUCATION)
COOPERATION (WITH COMMITTEE OF PRESIDENTS OF CAATS)
AD HOC JOINT SUBCOMMITTEES
COMMON ONTARIO UNIVERSITIES' PENSION PLAN STUDY (WITH OCUFA)
ACADEMIC SALARIES (WITH OCUFA)

APPENDIX E

COMMITTEE OF PRESIDENTS OF UNIVERSITIES OF ONTARIO
STATEMENT OF RECEIPTS AND DISBURSEMENTS
FOR THE YEAR ENDED JUNE 30, 1970

Cash on hand July 1, 1969		$ 98,509
Receipts		
Members' subscriptions	$769,166	
Interest income	4,693	
Other income	1,277	
		775,136
		873,645
Disbursements		
Capital expenditures	6,851	
Salaries and benefits	191,152	
Accommodation	24,217	
Telephone, telegraph, and postage	7,450	
Office supplies and printing	18,251	
Data processing expenses	40,681	
Purchase of books, reports, and periodicals	1,264	
Travel, meetings, and hospitality	14,613	
Publication of reports	5,320	
Professional fees	1,029	
Miscellaneous	406	
Projects and commissioned studies		
Library Transit System	73,524	
Ontario Universities' Television Council	17,520	
Bibliographic Centre	36,003	
Computer Coordination Group	93,852	
Engineering study	34,851	
Ontario Council of University Librarians	142	
Ontario Council on Graduate Studies	2,957	
Ontario Universities' Council on Admissions	5,169	
Engineering Skill Substitution Study	4,305	
Study of Educational Technology	1,500	
Pension study	3,023	
Ontario Universities' Television Council Film Purchase	2,047	
		586,127
Cash on hand June 30, 1970		
Petty cash	100	
Bank accounts	112,418	
	112,518	
Guaranteed Investment Certificates	175,000	
		$287,518

ONTARIO COUNCIL ON GRADUATE STUDIES: APPRAISAL COMMITTEE
STATEMENT OF RECEIPTS AND DISBURSEMENTS
FOR THE YEAR ENDED JUNE 30, 1970

Cash on hand July 1, 1969		$ 29,644
Fees received		28,500
		58,144
Expenses		
Travel	$ 11,044	
Consulting fees	23,600	
Hotel	1,735	
Meals	838	
Telephone and telegraph	377	
Salaries	3,063	
Exchange	405	
Supplies	209	
Miscellaneous	315	
		41,586
Cash on hand June 30, 1970		$ 16,558